

AGRICULTURAL OUTLOOK



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Year-2000 forecasts for U.S. economy & farm income...China's water resources...Trade & global financial crises...Farm safety-net ideas

Decline in U.S. Farm Income Tempered by Government Payments

The cumulative effect of 4 consecutive years of bumper crops in major agricultural producing countries is bearing down on U.S. farm income. Since little or no growth is expected for farm product demand in the near term, field crop prices are unlikely to improve. Net farm income is forecast at \$40.4 billion in 2000, a decline of \$7.6 billion from the preliminary estimate for 1999. In 1998 and 1999, the U.S. government helped maintain farm income and temper financial hardship for many producers by enacting emergency legislation to increase assistance to farmers. For 2000, government payments are forecast at \$17.2 billion, accounting for 8 percent of projected gross cash income—a \$5.5-billion decline from 1999's estimated record of \$22.7 billion.

U.S. Economy Shows Continuing Strength

U.S. economic expansion continued in 1999 near the 4-percent rate of 1997 and 1998, but growth in Gross Domestic Product is expected to slow slightly in 2000 to 3.5 percent. Over 2.5 million jobs will be added in 2000, and compensation will rise 3.6 percent overall, triggering a strong rise in personal income. Solid consumer spending growth brought on by rising personal income and stock market returns in 1999 will slow in 2000, but should be strong. The robust 1999 economic growth was spurred by consumer and investment spending, which more than offset the rise in the trade deficit.

Analyzing Farm Safety-Net Scenarios

USDA's Economic Research Service (ERS) has analyzed the concept of government assistance to agriculture based on ensuring some minimum standard of living for farm households. Guided by examples from existing Federal programs for low- and middle-income households, ERS constructed several safety-net scenarios for assisting farm households, retaining current government commodity programs. Results indicate, for example, that households of almost all farms classified



as *limited-resource* in the ERS farm typology would receive safety-net payments, compared with less than one-fifth who received direct government payments in 1997. Total safety-net payments going to households of family farms with annual sales over \$250,000 would be half the amount of direct farm payments made to these farms in 1997.

Ag Trade & International Financial Crises

The 1997-99 international financial crises that began in parts of Asia and spread to the former Soviet Union and Brazil led to currency depreciation, reduced economic growth, and higher interest rates in the crisis countries. Currency depreciation helped some agricultural producers in crisis countries by making their products more competitive in export markets and raising domestic prices. But consumption in crisis countries fell as depreciation brought on higher prices and as income declined. For the U.S., the financial crises, along with depressed global commodity prices, reduced agricultural exports and decreased the agricultural trade surplus, but lowered costs for imports and helped keep inflation in check. The recovery of the crisis economies in 1999 will help boost the volume of U.S. agricultural

exports in FY2000, although overall value is expected to remain flat.

Growing Pressure on China's Water Resources

In China, one of the world's most water-deficient economies, water scarcity is viewed as a major threat to long-term food security. While the farm sector is by far the largest user of China's water resources, rapid population expansion and economic growth are raising demand for urban and industrial use. China's leaders state that urban and industrial users will have first priority and that the proportion of water for irrigation purposes will decrease incrementally in the next few decades. While some areas continue to use water at unsustainable rates, the dominant trend is for both policy makers and farmers to begin adjusting to conditions of less available water for agriculture. The effects on crop mix could have consequences for trade.

Cigarette Consumption Declines As Prices Climb

U.S. tobacco growers continue to be significantly affected by the November 1998 tobacco settlement between cigarette manufacturers and state attorneys general. Manufacturers increased prices to cover costs of the settlement, pushing cigarette consumption to the lowest level since 1957 and reducing demand for tobacco leaf. With cigarette and tobacco leaf exports also falling, grower incomes are likely to decline.

Tree Nut Supply Bountiful

Record world supplies of almonds, walnuts, and hazelnuts—the three most important tree nuts in terms of global production and trade—are pushing availability of tree nuts to all-time highs and depressing grower prices. This season's large supply and low nut prices overall will likely boost consumption and trade volume in the U.S. and abroad. U.S. exports of almonds are forecast to rise 13 percent from last year, due partly to a weakening U.S. dollar. Exports of U.S. walnuts are expected to reach a record high.

Agricultural Economy



Jack Harrison

Continuing Strength Seen for the U.S. Economy in 2000

The U.S. economic expansion continued in 1999, undeterred by a tripling of the real trade deficit from 1997 through 1999. Despite some weakness in the goods-producing sector, U.S. economic growth in 1999 continued near the 4-percent rate of 1997 and 1998.

Strong profits, low interest rates, and profitable business opportunities brought robust growth in spending for business equipment and software. Solid consumer spending growth continued as real wages and stock market returns rose. The gains in domestic spending more than offset the effects of growth in the trade deficit.

Consumer spending will expand more slowly in 2000 than in 1999, with consumer interest rates higher and credit conditions tighter, but spending should be quite strong, reflecting the very high level of consumer confidence. Over 2.5 million jobs will be added in 2000, and compensation will rise 3.6 percent overall at rates comparable to 1999, triggering a strong rise in personal income.

USDA's Economic Research Service forecasts a growth rate of 3.5 percent in Gross Domestic Product (GDP) in 2000, down slightly from an estimated 3.9 percent in 1999. The larger trade deficit will trim

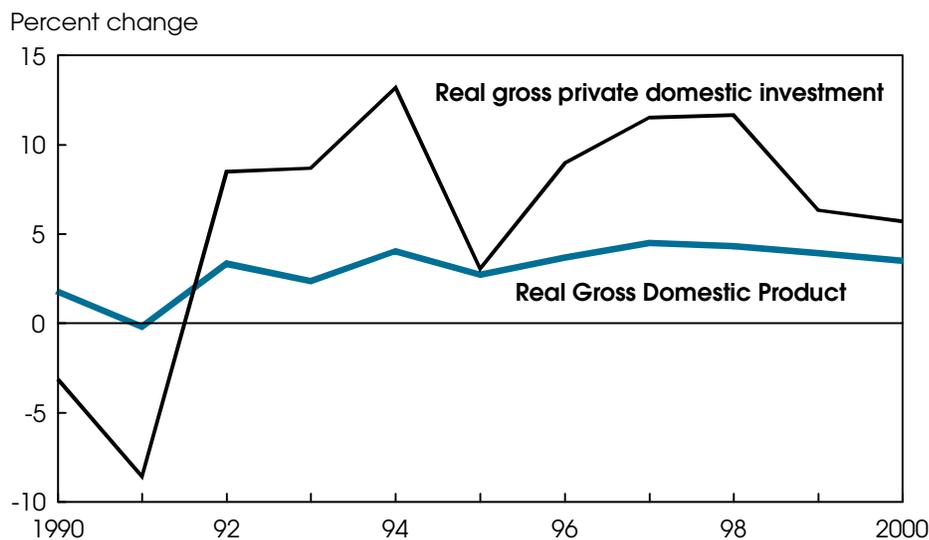
only about \$50 billion off GDP compared with the \$100 billion it subtracted in 1999, leaving a still healthy growth rate.

The major cloud over the strong U.S. economy in 1999 was the overall weakness of the goods sector—especially

manufacturing, farming, and mining—due in part to the record-large trade deficit. The trade gap widened in 1999 as exports fell and imports grew because of a strong dollar and slow world growth. The goods sector had been hit by low prices even prior to the Asian financial crisis, as very large worldwide inventories had been building up in basic manufactured products, field crops, and raw materials such as oil.

Although overall investment rose in 1999, lower overall profits and heavier losses in general manufacturing and field crop operations curtailed construction of new farm buildings and factories. Investment in software and business equipment was up an estimated 30 percent due to strong spending for productivity-enhancing systems, relatively low interest rates, and good profits. Although the frantic pace of investment financing by corporate businesses in late 1999 will show up in early 2000 as spending on plant and equipment, investment spending growth overall is expected to slow to 5.7 percent. In 2000, a slowdown in housing growth (to 1 percent) will offset the projected 7-percent growth in plant and equipment to keep investment growth under 1999's estimated 6-percent rate.

Positive Investment Growth Supports GDP Growth



1999 estimate; 2000 forecast.
Source: Bureau of Economic Analysis, U.S. Department of Commerce.
Economic Research Service, USDA

As GDP growth is above the 10-year trend, the Federal Reserve is expected to raise short-term interest rates 50 basis points (one-half percent) in first-half 2000, helping to keep the rise in inflation—measured by the Consumer Price Index (CPI)—to less than half a percentage point in 2000. CPI inflation should be at 2.6 percent, compared with 2.2 percent in 1999. Long-term Treasury bond rates are expected to rise to an average of 6.5 percent, up from 5.6 percent. Competition from other countries for investment funds as the global economy goes into full recovery is the major reason for the climb in long-term U.S. interest rates.

The exception to relatively low general inflation is the energy sector. In early 1999, farm fuel prices were very low as crude prices in late 1998 were the lowest in real terms since 1947. Crude oil prices more than doubled during 1999 as worldwide growth and recovery in faltering economies spurred oil demand. Oil output fell somewhat, despite rising demand, because OPEC members stayed within their production quotas and non-OPEC countries such as Norway did not increase output. The result was significant fuel price increases. For example, the price of diesel fuel in 1999 increased over 30 percent from 1998. Further fuel price increases are expected in 2000 as crude oil prices remain high.

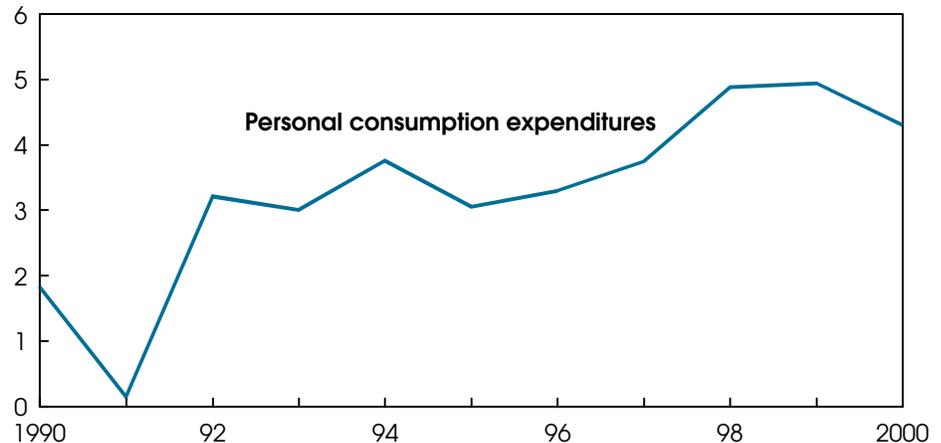
Labor Market Is Resilient

The overall labor market showed continued strength as employment grew by 2.6 million workers over the year. The service sector accounted for net new jobs for the economy in 1999 and is expected to be the primary source of over 2.5 million jobs expected to be added in 2000.

Despite the net job gain in the economy in 1999, the goods-producing sector lost jobs over the year, and manufacturing alone lost about a third of a million jobs, in both durable and nondurable production. Construction—fueled by new home development, government infrastructure projects, and Hurricane Floyd cleanup—was the only goods-sector industry to gain jobs. For the economy as a whole, mass layoffs—defined by the Bureau of Labor Statistics as job losses by more than 50 employees at one location—continued at

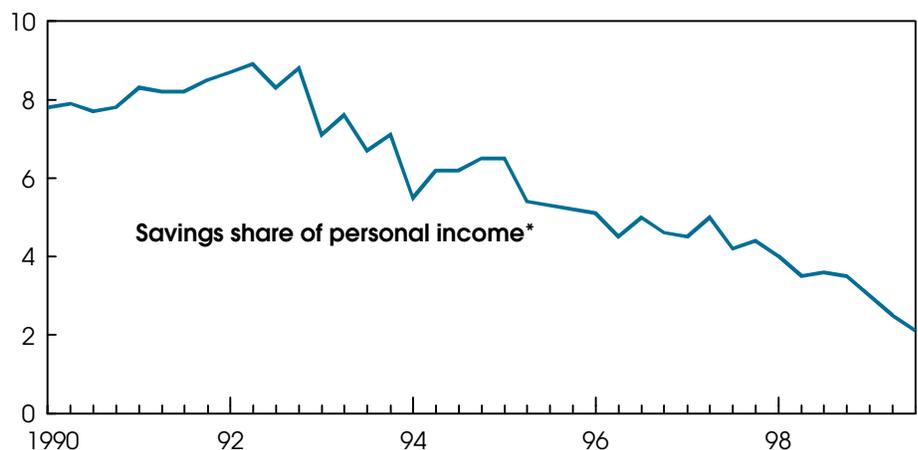
Consumers Accelerate Spending in the 1990's...

Percent change



...While Saving Less

Percent



Quarterly data. 1999 estimate; 2000 forecast.

*After taxes.

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

Economic Research Service, USDA

a relatively high rate throughout the year, with the numbers of layoffs and affected workers both very high.

The October 1999 unemployment rate, unchanged in November, was 4.1 percent, the lowest since 1970. Unemployment is expected to continue low in the near term. The employment-to-population ratio stayed high, with 64 percent of people aged 16 and above working. Employment increases in some months of 1999 were small, due to shortages of workers, not to soft demand.

Compensation—both wages and salaries, and benefits—increased steadily over the year. At the same time, strong productivity growth kept inflation from moving up sharply, and low inflation meant workers' purchasing power rose. Annual wage growth was about 3.3 percent in the first 9 months of 1999, down from 4 percent in 1998 but about the same as in 1996 and 1997. Since the current tight labor market conditions started in 1996, employers have also been more willing to provide workers with benefits such as more flexible scheduling arrangements and on-site child day care.

Agricultural Economy

Growing labor compensation, strong employment growth, high levels of consumer confidence, and rising household wealth supported a continued consumer spending boom in 1999. Gains in real estate and stock markets provided large increases in household wealth, so that consumers increased spending more than their rising labor income. With every major category of consumer spending growing faster in 1999 than in 1998 (in real terms)—except for housing and energy—it is not surprising that savings as a percentage of after-tax household income was at its lowest level in 50 years. The measured savings rate was positive, but only because of an accounting change in the National Income and Product Accounts that expanded the calculation of total pension savings to include funds held in Federal, state, and local government retirement savings plans.

A low household savings rate would normally trigger a sharp rise in long-term interest rates, given the strong demand growth for investment funds. However, the gap between investment demand and household savings was filled by state and Federal government budget surpluses, large business retained earnings, and a continued net flow of financial investment funds into the country. Long-term interest rates were up only 75 basis points (three-fourths of a percent) by the end of 1999. The relatively modest rise in interest rates allowed the stock market overall to continue bullish in 1999 and supported strong consumer and business spending.

Strong U.S. Economy Helped Fuel Asian Recovery . . .

In 1999, some of the economies most directly affected by the global financial crises began moving toward recovery. Three primary elements of the Asian economic recovery were: 1) significant reforms by Asian governments and corporations; 2) liquidity provided by the International Monetary Fund, World Bank, and the international community; and 3) export expansion. The strong U.S. economy played a key role in promoting the third ingredient of recovery.

In the short term, the Asian economies needed an increase in aggregate demand. Asian domestic demand was too weak-

WINDOW on the PAST

Excerpts from USDA publications

U.S. Economy in 1975

A gradual upturn in economic activity is likely in the second half of 1975, despite the possibility of additional energy difficulties and the lack of consensus on a national energy policy. Inventory liquidation, which has already exerted considerable downward pressure on the economy, will continue over the next few months. But significant upturns in production and real GNP are likely this fall.

Although consumer spending probably will be limited by a relatively high saving rate, consumer expenditures should provide the major strength in demand in the coming months. Should consumers decide to spend a larger share of their incomes, the recovery could be considerably more robust than now seems likely.

Businessmen have adopted a cautious attitude concerning future demand growth and output is well below the limit imposed by productive capacity. Thus, despite the strengthening effect of the 10 percent investment tax credit, real business fixed investment probably will show some further decline before turning upward in the early months of 1976. . . .

The Organization of Petroleum Exporting Countries is virtually certain to increase crude oil prices when the current freeze expires on October 1, 1975. While the exact amount cannot be predicted at this time, an increase of at least \$4 per barrel (roughly 25 percent) is not unlikely. An increase of this magnitude doubtless would have an adverse affect on both the extent and duration of the recovery. . . .

From the inaugural issue of Agricultural Outlook, June 1975

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ened by rising unemployment and falling domestic wealth to revive growth, despite increased liquidity. Lowering interest rates to raise Asian domestic demand would have further weakened currencies. The weaker currencies would have triggered more capital outflow, lowering demand in the short-term and increasing long-term structural adjustment problems. Moreover, lowering interest rates would have signified a backing away from needed reforms and induced even more capital flight. Lacking a potential stimulus from either private or public Asian domestic demand, the Asian countries needed to increase exports.

As the world's largest economy, the U.S. would be expected to absorb a large share of rising exports from Asia. As it turned out, the world situation made the role of

the U.S. indispensable, and larger than many had initially expected.

Most of the rest of the world was in no position to absorb increased exports. Europe and Japan—a major trading partner of the affected Asian countries—were experiencing sluggish growth at best in 1998 and early 1999. Slow-growth countries are poor export markets. Many of the larger developing country markets such as Brazil were themselves caught up in the financial crisis, so their economies would not absorb new imports. The affected Asian countries trade largely with each other, but could not look to each other as sources of new export markets—export growth to an economy in recession is most unlikely. Clearly, the booming U.S. economy was a prime candidate to absorb a very large share of rising Asian exports.

The increase in exports was aided by a flight of investment funds to U.S. financial markets starting in late 1997. The inflow of funds pushed U.S. market interest rates down as foreign investors sought a safe haven in U.S. treasury securities, raising the price of bonds and thereby lowering yields. The inflow of foreign funds also bid up the price of the dollar, making U.S. exports more expensive and imports from Asia cheaper. As a result, the U.S. through 1998 and 1999 absorbed a record level of imports. The overall strength of the U.S. economy allowed a real trade deficit of more than \$300 billion while not appreciably slowing U.S. growth. Lower interest rates and low oil prices for much of 1998 and 1999 boosted domestic sectors, more than offsetting contraction in the U.S. trade sectors.

Once the affected economies were jump-started by higher export demand, they provided a large part of the recovery stimulus for each other. Although problems remain in other countries—i.e., the former Soviet Union and parts of Latin America—the contagion of downturn from the Asia crisis is over. By the end of 1999, Asia and much of the developing world was well on the road to recovery. Most analysts expect world growth in 2000 to pick up, with developing countries growing at a 5-percent annual rate—about the same rate as before the financial crisis. Part of the recent oil price surge was in fact due to increased Asian and developing economy growth. Prospects are good for continued Asian growth in the medium term that will generally have a positive influence on U.S. exports.

... & Expansion to Benefit Ag Sector & Nonmetro Areas

The typical U.S. farm business has operated in an extremely supportive domestic and world economic environment over the last 5 or 6 years. Rapid U.S. growth that helped to sustain growth in developing countries—even as the European and Japanese economies sputtered—supported expanded exports of farm products and manufactured goods. Oil prices were generally low and farm input price inflation was quite modest as interest rates

remained low. The exchange rate of the dollar made U.S. farm products quite competitive until the world financial crisis strengthened the U.S. currency.

Further, an expanding U.S. economy allowed domestic agricultural market (food) demand to remain strong despite cutbacks in public assistance programs and falling food stamp allotments. New jobs often provided recipients of these program benefits with the means to maintain former spending levels for food.

In 1999, U.S. and global economic factors impacting U.S. agriculture were mixed. First, recovery in crisis-affected countries, expectations of a weaker dollar in 2000, and stronger world growth helped to keep U.S. farm export prices from falling even further than they would have as worldwide supplies of major crops mounted. Second, input price inflation overall was low, as costs for wages and industrial materials rose more slowly than in 1998. However, crude oil prices more than doubled from an unusually low level, and diesel fuel prices rose more than 30 percent from late 1998 to late 1999.

By the last half of 1999, long-term Treasury interest rates remained low (up just 75 basis points from 1998). But softness in the farm economy and tightening conditions for credit—both the standards to qualify for a loan and the spread between the prime rate and the rate available to individual borrowers—caused long-term farm interest rates to rise significantly above 1998. Further, the Federal Reserve tightened credit in 1999 to reverse the easing of credit in late 1998, thereby causing short-term Treasury yields to rise about 1 percent by late 1999. Short-term credit rates for farmers rose even more, reflecting the increase in default-risk premium—higher premiums due to higher perceived risk of default—which long-term farm rates and other small business loan rates also confronted.

The situation for farm exports should improve with even stronger world growth and a further weakening of the dollar as investors move funds to Japan and

Europe, reflecting more robust financial prospects there. Price inflation for manufactured farm inputs will likely be higher in 2000 than in 1999 as the lagged effects of higher oil prices work their way into the system, with higher fuel and fertilizer prices for the entire year. Crude prices are expected to stay above \$20 per barrel, pushing the average price of fuel in 2000 up sharply from the average for 1999—albeit an average that reflected very low prices early in the year. Fertilizer costs, however, will not likely move up, with natural gas prices remaining low because of large inventories.

Prospects for farm businesses are mixed. Overall, net farm income is expected down in 2000, with row-crop producers seeing drops in income although animal-products producers' income should rise. Off-farm income prospects for farm households should improve as the expanding economy and continued labor market tightness make more plentiful and better paying jobs available.

Rising U.S. exports will also benefit nonmetro areas. Nonmetro labor markets, because of their larger share of manufacturing, mining, and agriculture-related jobs, are more dependent on exports than metro labor markets. When crises abroad brought a decline in export growth of U.S. goods in 1997—followed by a sharp drop in early 1998—nonmetro employment growth declined along with goods export growth, while metro labor markets were largely unaffected.

As goods exports rebounded in late 1998 and as the global financial crises abated, the shock to the nonmetro labor market subsided. Employment growth has since been steady in nonmetro areas, although not as high as metro growth. In 2000, higher world growth and a weaker dollar are expected to improve prospects for exports of manufactured goods and farm products, generating additional jobs in nonmetro areas. **AO**

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Agricultural Economy



Jack Harrison

U.S. Farm Income Decline In 2000 to be Tempered by Government Payments

The cumulative effect of 4 consecutive years of bumper crops in major agricultural producing countries is bearing down on U.S. farm income. By historical standards, this period has been unusually favorable for crop production. Not only has there been little adverse weather, but rainfall has generally been abundant and timely. In late 1997 and in 1998, rising world commodity supplies in the face of weak international demand put downward pressure on farm prices and reduced the value of U.S. agricultural exports.

At the conclusion of 1999, supplies of most agricultural commodities remain large, as stocks carried over from 1998 were augmented by large 1999 world crops. Since little or no growth is expected for farm product demand in the near term, commodity prices are unlikely to improve unless widespread adverse weather curtails global production and reduces supplies. In 1998 and 1999, the U.S. government helped maintain farm income and temper financial hardship for many producers by enacting emergency legislation to increase assistance to farmers.

Abundant supplies, low commodity prices, and increased government assistance provide the context for calendar-year 2000 income forecasts. Net farm income is forecast at \$40.4 billion in 2000, a decline of \$7.6 billion from the preliminary estimate of \$48.1 billion for 1999. Net cash income is forecast at \$49.7 billion, \$9.4 billion less than the preliminary estimate for 1999. From a longer term perspective, net farm income in 2000 is forecast to be 88 percent of its 1990-99 average, with net cash income at 90 percent of the 1990-99 average.

The impact of low commodity prices is reflected in a \$1.7-billion drop in total crop receipts from 1999 to \$93.3 billion, the lowest since 1994. Year 2000 receipts are forecast down by \$2.1 billion for major field crops, although up \$1.2 billion for fruit, vegetable, and greenhouse/nursery products. Livestock receipts will increase for the second consecutive year to \$96.5 billion as a result of continued growth in the poultry sector and modest improvement in cattle and hog operations. Dairy receipts are expected to fall by nearly \$2 billion from 1999, reaching their lowest level since 1997.

Government assistance recently has played a key role in stabilizing gross and net income for the U.S. farm sector, particularly for grain, soybean, and cotton farms. For 2000, government payments are forecast at \$17.2 billion, accounting for 8 percent of projected gross cash income. This is a \$5.5-billion decline from 1999's estimated record of \$22.7 billion. Continued low commodity prices for major crop commodities generated a substantial increase in 1999 loan deficiency payments (LDP's) over 1998 and will continue to do so in 2000. LDP's are forecast at \$7.9 billion for 2000, up from preliminary estimate of \$6.9 billion in 1999 and \$1.8 billion in 1998. Some portion of the 2000 LDP forecast could be taken by farmers as marketing loan gains which are treated as cash receipts.

The forecast for 2000 direct government payments also includes \$2.8 billion in emergency assistance from the fiscal year 2000 agricultural appropriations legislation, in addition to payments under production flexibility contracts, conservation, and other programs.

Government payments, including additional emergency assistance, were sufficient to maintain 1998 and 1999 net farm income at, and even above, the average for the decade. The majority of payments came from three government programs: production flexibility contract payments, loan deficiency payments, and emergency supplemental appropriations enacted in October 1998 and again in October 1999. The forecast for government payments for 2000 is markedly smaller than the amount paid to farmers in 1999, with the difference largely due to the two fiscal-year emergency supplemental appropriations. The forecast for 2000 includes modestly declining production flexibility contract payments and rising LDP's.

Total farm production expenses, forecast at \$192.3 billion in 2000, are expected to change by less than 1 percent for the third straight year, after rising more than 4 percent each year from 1993 to 1997. A large part of this leveling-off in expenses has been due to the fall in cash grain prices, resulting in lower feed costs to livestock producers. Total production expenses in 2000 will equal 84 percent of gross receipts (exceeding 90 percent of gross

U.S. Farm Income to Drop in 2000

	Average 1990-99	1996	1997	1998	1999	2000	Change 1999-2000
<i>\$ billion</i>							
Value of crop production	95.6	115.4	112.1	102.0	95.0	93.5	-1.5
Food grains	8.8	10.7	10.1	8.7	7.4	6.7	-0.7
Feed crops	22.1	27.2	27.1	22.9	20.6	19.5	-1.1
Cotton	5.9	7.0	6.3	6.0	5.0	5.3	0.4
Oil crops	14.9	16.3	19.7	17.2	14.6	14.3	-0.3
Value of animal production	91.3	92.1	96.5	94.3	96.0	96.8	0.8
Meat animals	47.6	44.2	49.7	43.6	46.9	47.7	0.8
Dairy products	20.8	22.8	20.9	24.3	23.4	21.4	-1.9
Poultry and eggs	19.1	22.4	22.2	22.8	22.8	23.6	0.7
Services and forestry	19.4	20.8	22.5	24.6	25.4	25.2	-0.2
Total value of production	206.4	228.4	231.2	220.8	216.4	215.5	-0.9
Direct government payments	10.6	7.3	7.5	12.2	22.7	17.2	-5.5
Net cash income	55.1	57.5	58.9	55.0	59.1	49.7	-9.4
Net farm income	45.8	54.9	48.6	44.1	48.1	40.4	-7.6

1999 preliminary; 2000 forecast.

Economic Research Service, USDA

receipts less government payments). Operating margins (gross receipts minus expenses) will be the tightest since the 1980-84 period.

For farm households, a relatively large decline in 2000 farm income will be partially offset by increasing off-farm income. Average farm household income is forecast at \$59,350, down from an estimated \$61,363 in 1999 but close to the 1998 level. Farm operators' household income has averaged about the same as U.S. household income during the past three decades. While earnings from farming activities have been volatile over time, earnings of operator households from off-farm sources have been steadily increasing.

Debt Stable but Repayment Problems to Intensify

Farm business balance sheets, despite the increase in debt in recent years, have shown steady improvement throughout the 1990's, especially since 1992. Equity positions have generally improved, and debt-to-asset ratios have declined as the increase in farm business debt has been more than offset by the rise in farm asset value. Farm debt is anticipated to stand at \$172.5 billion by the end of 2000, down slightly from 1999. With farm assets forecast at \$1,073.5 billion for 2000, farm equity should reach \$901 billion by the

end of 2000. At this level, farm equity would be \$7.2 billion above 1999.

With the reduction in income and narrowing of margins in 2000, farmers will be managing tighter cash flows. A higher proportion of debt service capacity will be

used, reducing farmers' credit reserves and exposing a larger share of farms to potential debt repayment problems. The key factor that may contribute to expected rising debt service problems is lower incomes rather than substantially rising debt levels or falling asset values.

Farm debt repayment capacity use (actual debt expressed as a percentage of maximum debt that farmers could service with current incomes) effectively measures the extent to which farmers are using their available lines of credit. This ratio indicates that, in 2000, farmers are expected to use more than 66 percent of the debt that could be supported by their current incomes. Farmers used about 59 percent of this hypothetical credit capacity in 1998. The infusion of government payments in 1999 boosted net cash income and increased the level of debt that farmers could service, which reduced debt repayment capacity use to 56 percent. While debt repayment capacity use remains relatively low compared with levels in 1977 through 1985, a period of economic turmoil in the farm sector, its projected 2000 value will be its highest level since 1985.

WINDOW on the PAST

Excerpts from USDA publications

Farm Income in 1975

First quarter farm income estimates and prospects for the rest of 1975 was estimated at a \$21½ billion seasonally adjusted annual rate. This compares with \$26.4 billion in October-December 1974, and a \$32.9 billion annual rate in January-March 1974.

A downturn in gross and net farm income is indicated for this year. Assuming favorable yields for 1975 crops, a good possibility based on June 1 crop conditions, net income for the entire year could fall to around \$20 billion. Bumper crops, compared with the drought-plagued 1974 output, would lead to significant declines in crop prices and receipts. Livestock marketings, with ample feed from a large 1975 crop, could be slowed temporarily in favor of feedlot placements as feed costs eased. Thus, with a sharp drop in crop receipts and little change in livestock receipts, farmers' gross income would recede from the record level of 1974.

From the inaugural issue of Agricultural Outlook, June 1975

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Agricultural Economy

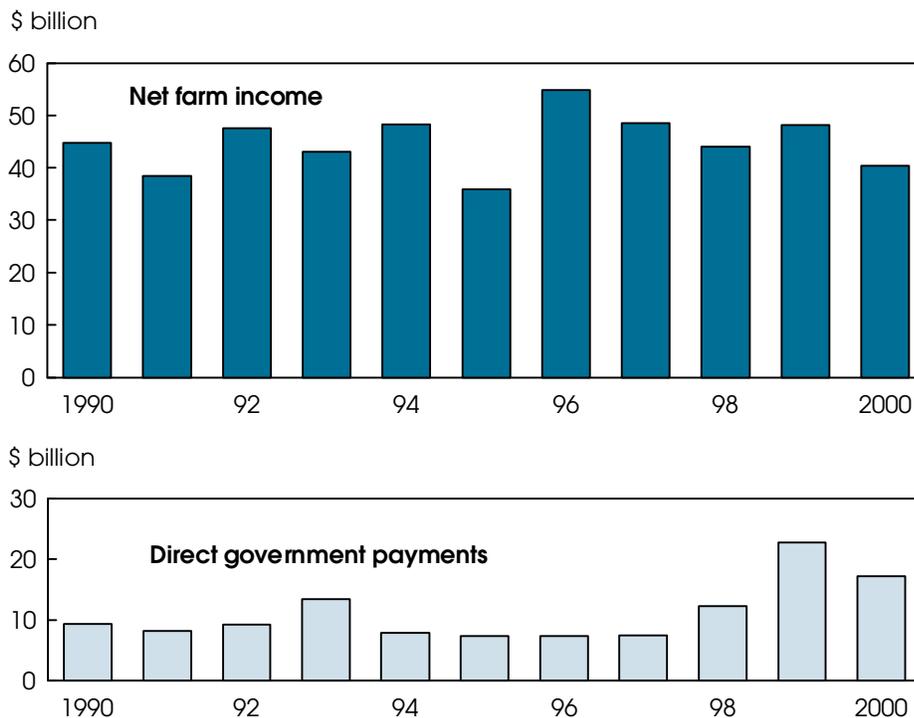
Loan deficiency payments (LDP's) compensate farmers for the difference between posted county prices and Commodity Credit Corporation crop loan rates and essentially help establish minimum per unit revenue for the applicable commodities. Once the posted county price falls below the loan rate, the rise in LDP payments essentially tracks the decline in cash receipts, or sales. **Production flexibility contract payments** and the "market loss" component of emergency aid, generally paid proportionally to production flexibility contract payment recipients, serve to augment revenues for farmers with production flexibility contracts. **Conservation and other programs** provide rental income to certain farmers who have contracts under those programs. In addition, there are **disaster payments** in the form of indemnities (to those persons with contracts), and in 1999 there was a **buy-down of crop insurance premiums** charged farmers (i.e., increased subsidy level). The premium buy-down continues in 2000.

Farm Income Outlook By Region & Commodity

The persistence of low commodity prices will aggravate cash-flow problems in 2000 for farm businesses in several regions. Relative to 1998, the largest declines in average net cash income are expected in the *Mississippi Portal*, *Eastern Uplands*, *Southern Seaboard*, and the *Heartland* (see map, page 20). Southern areas of the country will be hard hit by continued low prices for corn and soybeans and dramatic year-over-year price declines for rice and tobacco. Higher cattle prices and relatively cheap feed should boost average net cash income in the *Northern Crescent*, *Northern Great Plains*, and *Prairie Gateway* regions relative to their 1994-98 averages.

In all regions except the *Heartland* and the *Northern Crescent*, at least one in four farm businesses will not cover cash expenses. Relative to 1998, the largest increases in the share of farms with negative net cash income occur for the *Southern Seaboard* and *Mississippi Portal* (7 percentage points each). The *Eastern*

Government Payments Maintained Farm Income in 1998 and 1999



1999 preliminary; 2000 forecast.

Economic Research Service, USDA

Uplands and *Heartland* regions also experience relatively large increases in the proportion of farms with negative net cash income (up 6 percentage points each).

A relatively high percentage of farm businesses in the *Northern Great Plains* and *Prairie Gateway* regions have had persistent debt repayment problems. While the *Northern Great Plains* has had the highest incidence of debt repayment difficulty, this situation should improve in 2000. In the *Prairie Gateway*, 18 percent of farm businesses are expected to have debt repayment problems, a slight increase over 1998, but well below 1997. A substantial increase in farm businesses with debt repayment difficulties is expected in the *Mississippi Portal*. Its share of 20 percent with debt repayment difficulty would be the highest of any region in 2000.

Current expectations are for net cash incomes for all farm types to be less in calendar-year 2000 than in 1999. The story for net cash income is basically the same for all commodities; a stable or, at best, very modest increase in livestock

receipts will not be sufficient to offset the continued erosion of crop receipts; an assumed reduction in government payments from 1999 levels; and a continued modest rise in production expenses.

Reductions in net income will be largest for major row-crop farms, with income less than the previous 5-year average. Specialty crop and livestock farms will also experience declines from 1999, but these farms, except hog operations, should have incomes in 2000 that exceed their 1994-98 average. Farms with the largest deviation from the 5-year mean will include tobacco, cotton, peanut, and soybean farms, and general crop farms. The greatest increase in use of debt service capacity will be among major cash grain farms, especially those that specialize in production of wheat and corn. **AO**

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Briefs

Specialty Crops

Tree Nut Supply Bountiful

Tree nuts are in abundant supply this season. Record world supplies of almonds, walnuts, and hazelnuts—the three most important tree nuts in terms of global production and trade—are pushing total availability of tree nuts to all-time highs. U.S. crops of pecans, pistachios, and macadamia nuts, although not records, are also expected to be large.

Record production in 1999 will result in burdensome supplies for farmers worldwide, as carry-in stocks for the 1999/2000 season (July 1-June 30) were already above normal for many nut crops. Since many varieties of nuts can easily be substituted for each other, anticipated large crops and record supplies for all tree nuts in most major producing countries are keeping nut prices low overall. Carryover stocks at the end of the marketing season (summer 2000) also will likely be very high, making supply adequate going into next season.

The large tree nut supply this season will likely boost consumption and trade volume in the U.S. and abroad; it will also, however, depress grower prices. Low prices of domestically produced nuts that accompany the very large supply will probably induce U.S. importers to purchase larger volumes of nuts to use in mixed nut packs and other products that utilize nut varieties not grown in the U.S., such as cashews and Brazil nuts. While peanuts are not a tree nut, they are substitutable in some nut products, depending on relative prices.

In the U.S., almonds account for about 25 percent of total tree nut consumption, followed by pecans (22 percent), walnuts (17 percent), pistachios (8 percent), hazelnuts (3 percent), and all others, mostly cashews and Brazil nuts (25 percent). Almonds are a bargain compared with pecans and cashews, which are nearly triple the price at wholesale. Pistachios are nearly twice the price of almonds, while hazelnuts cost 40 percent more and walnuts 20 percent more.

Large *almond* production increases in the U.S. and in Spain, coupled with large stocks of U.S. almonds held in reserve, will push world supplies to record levels, 30 percent higher than last year. Harvest of almonds—which lead other nuts in world production and trade—is forecast at a record 488,000 metric tons, shelled basis, (about 813,000 metric tons, in-shell basis) in the five major producing countries this season. U.S. almonds—grown solely in California—account for about 77 percent of total world production. Spain is the second-largest producer (about 14 percent of production), and Italy, Greece, and Turkey account for most of the remainder. Behind the production increase, in addition to the crop's cyclical nature, are higher yields from good weather and continued increases in bearing acreage.

U.S. almond prices have fallen 33 percent since 1996. Increased output in the other producing countries has reinforced the downward trend in prices. Low nut prices, however, will encourage higher consumption as well as expand export demand. In the U.S. domestic market, the world's largest almond market, consumption is

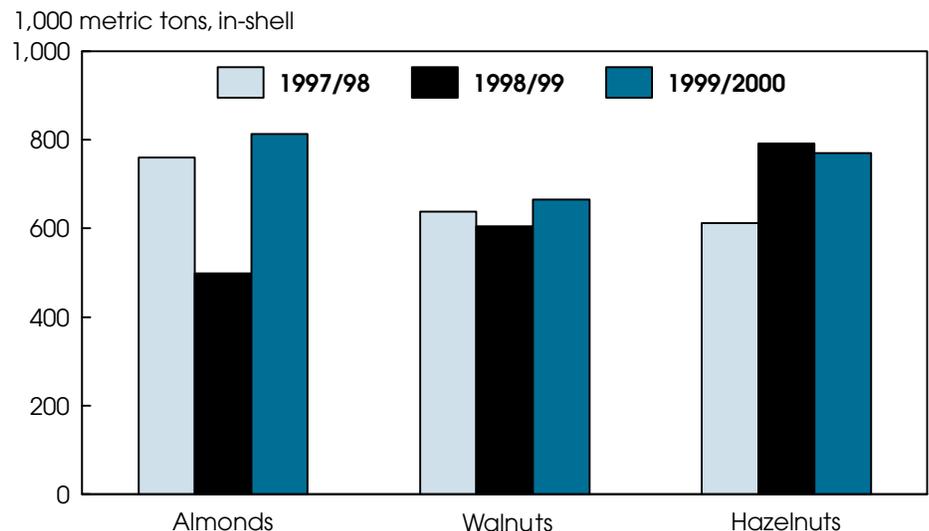
forecast to increase by 6 percent to 450 million pounds in 1999/2000.

Almonds are the top-value U.S. horticultural export, well above wine, the second most important horticultural export. Larger output, reduced prices, and a weakening U.S. dollar are forecast to boost U.S. almond exports 13 percent from last year. Typically, about two-thirds to three-fourths of the U.S. almond crop is exported, with a value exceeding three-quarters of a billion dollars in the last few years.

About two-thirds of U.S. almond exports goes to the European Union (EU)—primarily Germany, Spain, and the Netherlands—and about one-sixth is shipped to Asia—mostly Japan and China. Sales to Japan, currently the second-largest export market after the EU, are expected up 15 percent in 1999/2000, due primarily to increased demand by the chocolate and baking industries. Exports to China are forecast to nearly triple and perhaps surpass Japan, India to double, and Korea to grow by one-third.

Shelled almonds, including prepared and preserved, accounted for 97 percent of total U.S. almond exports in 1998/99. Asia is the largest importer of in-shell almonds, purchasing nearly 75 percent of U.S. in-shell exports.

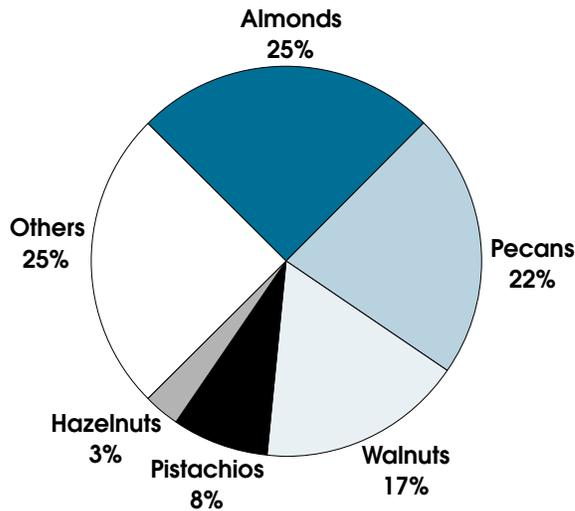
Record-Large Global Almond and Walnut Crops Forecast for 1999/2000



Marketing years vary by country. 1998/99 estimate; 1999/2000 forecast.
Economic Research Service, USDA

Briefs

Almonds, Pecans, and Walnuts Top U.S. Tree Nut Consumption



Total consumption in 1998/99 = 611 million pounds. U.S. marketing year begins July 1 for almonds, hazelnuts, pecans, and others; August 1 for walnuts; and September 1 for pistachios. Economic Research Service, USDA

Developing new products to boost consumption in the U.S. and abroad is critical in selling this year's record crop and sustaining higher levels of use in the future as acreage and production climb. One new product is almond milk, a lactose- and cholesterol-free nondairy beverage fortified with calcium and vitamins. In cooperation with USDA's Market Access Program, the U.S. almond industry is marketing almond milk in Australia and New Zealand. Another industry effort was to organize consumer-oriented marketing campaigns—aimed at Germany, France, the United Kingdom, and Asia—promoting almonds as a healthy snack.

Walnut production in the six major producing countries is forecast to reach a record 665,000 metric tons, in-shell basis, for the 1999/2000 marketing season, up 10 percent from the previous season. China and the U.S. both expect record crops, and each will account for about 38-40 percent of world production. Acreage is fairly stable in the U.S., but is increasing in China. The higher production is mainly the result of weather-enhanced yields, stronger varieties, and a larger share of bearing age trees. U.S. exports—nearly half of domestic production—are expected to hit a record, and will total about 4 times the quantity exported by China.

Record world walnut output, coupled with a record world supply for all tree nuts, will likely decrease already low walnut prices. U.S. walnut prices have declined 36 percent since 1996. However, as with almonds, larger supplies and anticipated lower prices will spur world exports and consumption. In 1999/2000, world exports are forecast to increase 18 percent, and world consumption to rise 8 percent. Most of this growth is attributable to the U.S., which will continue to dominate markets in Europe. Exports from China are bound mainly for markets in the Far East and the Mideast, and are expected to remain unchanged, as strong domestic demand commands the largest share of production.

Working with the Market Access Program, the U.S. walnut industry is attempting to expand sales abroad beyond the traditional holiday season by promoting walnuts as a year-round healthy food in the home and by encouraging additional usage in restaurants and bakeries. The strategy is aimed mainly at the three largest markets for U.S. walnuts—Germany, Japan, and Spain—where U.S. exports in 1998/1999 dropped below the previous three seasons. Although U.S. exports are expected to reach a record high and domestic consumption is forecast up, carryover stocks at the end of the

1999/2000 marketing year will likely be at very high levels, keeping pressure on prices.

Hazelnut output in the four major producing countries is forecast to decrease a net 3 percent in 1999/2000 to 770,000 metric tons, in-shell basis. Marginal production decreases in Turkey and Italy—the world's two largest producers—more than offset significant increases in Spain and the U.S. Nevertheless, total world hazelnut supply is up 15 percent from last year, due mainly to substantially higher carryover stocks in Turkey.

In-shell use of tree nuts is very popular in the Mideast and Mediterranean regions, with hazelnuts preferred over almonds due to their ready availability and lower prices. Although relatively low hazelnut prices are expected to encourage consumption and increase trade, U.S. shippers will face increased international competition from the lower priced Turkish product. Hazelnut prices are also affected by prices of other tree nuts, particularly the less costly almonds and walnuts.

Hazelnut production in Turkey is so substantial in most years that it affects export prices of tree nuts worldwide. Turkey typically produces 70 percent of world hazelnut production and accounts for 80 percent of world trade. In the past few years, the Turkish government has tried unsuccessfully to implement incentive programs to shift acreage out of hazelnut production in order to reduce the persistent glut and raise grower prices. Yet high support prices in Turkey still continue to attract producers into the market, contributing to expanded hazelnut plantings and production.

While there are no EU direct price support program for tree nuts, the EU is taking steps to heighten the competitiveness of member countries' tree nut producers. The EU has implemented an improvement plan in Spain's hazelnut and almond sectors that provides a stipend to growers to plant improved, higher yielding varieties. EU producer organizations are concerned that this program may end in 2000. **AO**

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Commodity Spotlight



Jack Harrison

Declining Cigarette Consumption Follows Price Hikes

Wholesale cigarette prices increased dramatically on the signing of the November 1998 settlement between cigarette manufacturers and most state attorneys general. The initial increase, 45 cents per pack on the day the settlement was announced, was the largest in history and was followed 9 months later by an 18-cent-per-pack increase. Together they produced a 50-percent increase in wholesale prices and an estimated 6 percent slide in cigarette consumption to about 435 billion pieces, the lowest since 1957. This drop follows 1998's 3-percent decline in U.S. cigarette consumption. Further decreases in cigarette consumption are likely as prices continue to increase, excise taxes rise, and restrictions expand on smoking in public places.

In addition to paying higher prices imposed by cigarette manufacturers, partially to cover expenses of the settlement, cigarette consumers have faced numerous state tax increases in recent years. Furthermore, the 24-cent per pack Federal excise tax on cigarettes increases 10 cents in January 2000, and will rise another 5 cents per pack in January 2002, to a total of 39 cents per pack. The Consumer Price Index (CPI) for cigarettes indicates that retail prices in November 1999 were

32 percent higher than a year earlier, compared with the 1998 price rise of 12 percent.

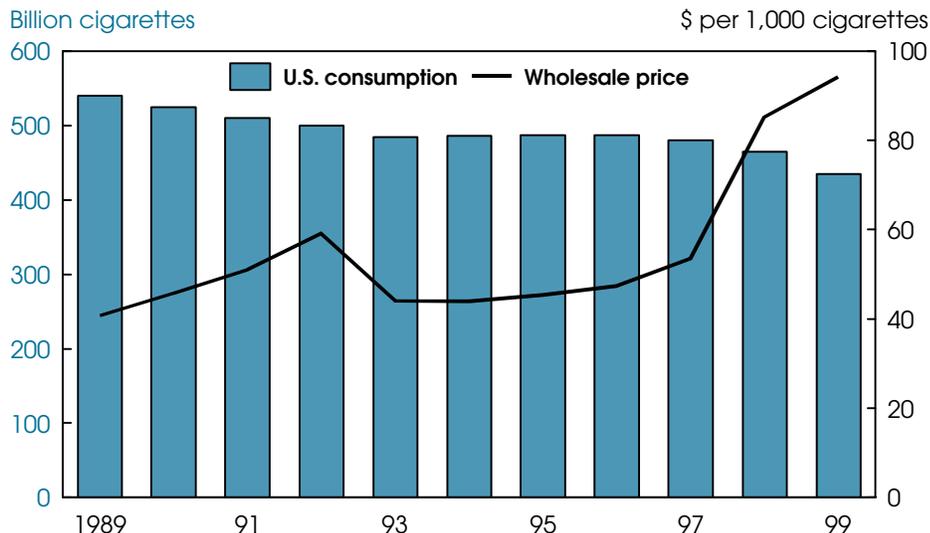
The price increase of November 1998, combined with lagging exports, set the stage for reduced domestic consumption and output. Total U.S. cigarette produc-

tion was 679.7 billion pieces in 1998, down 5.5 percent from 1997 because of lower exports and shrinking U.S. consumption. In preliminary estimates for 1999, production will continue 1998's slide. Output of cigarettes is expected to drop 7 percent to 635 billion pieces, reflecting continuing declines in consumption and exports.

The U.S. is the world's largest exporter of cigarettes, and for many years burgeoning exports offset declines in domestic consumption. However, export volume that peaked at 243 billion pieces in 1996 has fallen to an estimated 170 billion in 1999. Cigarette exports are falling as U.S. manufacturers transfer production of cigarettes to overseas sites to reduce costs and as consumption declines in some of the major U.S. export markets as anti-smoking activity increases.

January-September 1999 cigarette exports were 115.7 billion pieces, compared with 157.1 billion during the same period of 1998. During the first 9 months of 1999, shipments to Japan were steady, but shipments to the European Union (EU), the countries of the former Soviet Union, and some Asian markets plummeted. Shipments to the EU dropped to 17.6 billion cigarettes, less than half the level of the same period in 1998 and 70 percent below

U.S. Cigarette Consumption Declines as Prices Rise



1999 forecast. Prices as of December 31; excludes Federal excise tax.
Economic Research Service, USDA

Commodity Spotlight

the high of 59.1 billion during January-September 1995. Exports to Turkey were 67.8 million pieces in 1999, compared with 4.5 billion during 1997.

Imports account for a tiny proportion of total U.S. cigarette consumption. Cigarette imports grew from 3.2 billion pieces in 1997 to 4.3 billion in 1998, due primarily to increased grey market shipments—legally exported U.S. cigarettes that are shipped back for sale in the U.S. Grey market cigarettes, despite duties and taxes, are still cheaper than cigarettes manufactured for sale in the U.S., because of their lower initial price. Manufacturers charge wholesalers less for cigarettes destined for export than for those to be sold domestically. Imports are expected to advance again in 1999 to nearly double 1998 levels.

Tobacco Leaf Crop & Exports Reflect Drop in Cigarette Use

About half of tobacco grown in the U.S. is used in domestic cigarette production. Flue-cured and burley tobaccos are the main components of cigarettes. The typical cigarette contains 34 percent U.S. flue-cured, 22 percent U.S. burley, and the remainder is imported flue-cured, burley, and oriental leaf (oriental leaf is not grown in the U.S.). For 1999, flue-cured acreage declined 64,000 acres from the previous year while burley acreage slid less than 2,000 acres. The December 1 production forecast for all tobacco is 1.28 billion pounds, 14 percent below last year. During the past marketing year (1998/99), about 63 percent of U.S.-produced tobacco was used for domestic manufacture and the remainder exported. Estimated use of U.S. leaf totaled 1.45 billion pounds, 4 percent below 1997/98.

For 2000, flue-cured leaf manufacturers' purchase intentions are 286 million pounds, down from 1999's 327 million pounds. As cigarette output has shrunk in recent years, manufacturers have used less leaf. Purchase intentions have plummeted and loan stocks have accumulated. Oversupply was worsened by weak export demand. The result has been lower marketing quotas (the amount growers are allowed to sell) for flue-cured and burley tobacco. Quotas dropped substantially in 1999 as manufacturers lowered purchase

Tobacco Program Quotas & Price Supports

The USDA tobacco program is designed to stabilize and enhance grower incomes through a system of marketing quotas and price supports. Operating expenses of the program are paid from assessments levied on producers and buyers for each pound of tobacco sold under the program. Marketing quotas (the amount growers are allowed to sell) for flue-cured and burley tobacco are determined by manufacturers' purchase intentions, loan stocks, exports, and some discretion by the Secretary of Agriculture. Manufacturers' purchase intentions are the amount of tobacco leaf companies commit to buying before the marketing year begins. Companies are penalized if they do not purchase at least 95 percent of the amount declared in their purchase intentions. Loan stocks are the tobacco stocks held by grower cooperatives just prior to the quota determination. The export component is the average of 3 previous years' exports. The sum of these components can be adjusted as much as 3 percent, up or down, by the Secretary of Agriculture.

The national quota for a given type of tobacco is divided among growers in proportion to the share of the total quota they farm. Individual growers can market up to 103 percent of their quota without penalty. Individual grower over-marketings up to 103 percent and under-marketings down to 97 percent are carried forward to the next marketing year.

In addition to restricting the quantity of tobacco marketed, the USDA tobacco program also provides a support price (the loan rate) for each grade of tobacco. The overall support price for flue-cured and burley tobacco is the annual flue-cured and burley price support for the preceding year adjusted by changes in the 5-year moving average of market prices (omitting high and low years) and changes in the cost-of-production index. Costs include general variable expenses directly related to tobacco production. The Secretary can set the price support between 65 and 100 percent of the calculated change, as price supports vary by the grade of leaf. The weighted average of the price support for each grade within a type is equal to the overall support price for the type of leaf.

intentions in response to declining cigarette consumption in the U.S. and lower export volume. Flue-cured basic quotas slipped 18 percent to 667.7 million pounds, and burley quotas fell 29 percent to 450.6 million pounds.

The value of U.S. tobacco leaf and product exports in 1998/99 (July-June) was \$5.7 billion, down from \$6.5 billion the previous year. Imports were valued at \$1.2 billion, resulting in a tobacco trade surplus of \$4.5 billion. Unmanufactured tobacco export value totaled \$1.4 billion, about the same as 1997/98, while product exports slipped nearly half a billion dollars to \$4.3 billion. Unmanufactured tobacco imports were \$372 million, about 23 percent below the previous year. Lower cigarette exports were the main factor in the declining tobacco trade surplus.

The proportion of imported tobacco used in U.S. manufactured cigarettes has a significant impact on tobacco growers.

Imported leaf for cigarettes consists of flue-cured, burley, and Oriental leaf types. Flue-cured and burley imports are generally of lower quality and price than those varieties produced in the U.S. and are substituted in blends to reduce manufacturing costs.

In 1998, imported leaf made up 43.4 percent of U.S.-manufactured cigarettes, compared with 44.8 in 1997—the highest level ever. The import share of the blend began rising in the early 1990's, along with the popularity of discount cigarettes that use greater proportions of imported leaf to reduce costs. Since inception of the Tariff Rate Quota (TRQ) for tobacco leaf in 1998, imports have risen because the TRQ is high enough that it does not constrain imports. Furthermore, leaf that is imported and subsequently exported in the form of products is subject to a refund of most of the duty. Previously, U.S.-manufactured cigarettes could contain no more than 25 percent imported leaf.

Flue-Cured Auction Sales Plummet

Flue-cured auctions for 1999 ended on November 16, 1999. Sales ran for 56 days. Producer sales at auction totaled 645 million pounds, compared with 815 million pounds in 1998. Auction prices this season averaged \$1.74 a pound compared with \$1.76 last year. The decline of 170 million pounds in producer sales of flue-cured leaf is a result of the sharp decline in the flue-cured effective quota in 1999—671.5 million pounds, down from 819.6 million pounds in 1998. Cash receipts for flue-cured growers are expected to be 22 percent below last year's.

Hurricane Floyd interrupted the 1999 marketing season, and flue-cured tobacco sales were cancelled for 1 week in late September. Ultimately, much of the damage caused by the hurricane and subsequent flooding was to tobacco that had already been purchased and was being processed or in storage. Cooperatives purchased 136.4 million pounds, 21 percent of the sales. Last year, 82.4 million pounds (10 percent) went under loan.

Flue-cured quality in 1999 suffered from hot, dry weather in much of the production area from the time of transplanting until early June. In addition, a third of the Georgia crop was damaged by tomato-spotted-wilt virus. U.S. flue-cured production is estimated at 658 million pounds.

Use of foreign-grown flue-cured leaf and stems declined in 1998/99. On July 1, 1999, stocks of foreign-grown flue-cured were 16 percent lower than a year earlier. Stocks declined as cigarette manufacturers reduced cigarette leaf imports, drawing down stocks of foreign leaf instead.

Burley Crop Down Slightly

The December 1 forecast of the 1999 U.S. burley crop is 545.4 million pounds, down about 8 percent from last year. Quota cuts reduced planted acres. Moisture was adequate during the spring, but extremely dry weather during late July and August lowered yields. Yields for the 1999 crop are expected to decrease slightly from last season.

Tobacco Production Contract Proposal

Prior to the 1999 marketing season, Philip Morris proposed a system of contract purchases for leaf tobacco. The company presented the plan as a way to ensure the availability of U.S.-grown leaf of the type and quality it requires to manufacture cigarettes. It offered to buy, under a 3-year rolling agreement, all the tobacco a grower could produce at a predetermined price based on stalk position, grade, and quality. Philip Morris would communicate with the grower regarding quality and ways to increase farm productivity. Included was the firm's commitment to enter into contracts with large and small growers in all flue-cured and burley production areas. Warehouse owners would be compensated for receiving and processing tobacco produced under contract.

The proposal was dropped after growers indicated a strong preference for the current auction marketing system. However, given trends in other commodities, contracting arrangements for leaf tobacco may receive further consideration in the future.

The future of the tobacco program under production contracts would be uncertain. Tobacco sold in this way bypasses the price support components of the program. Price support is only available to growers who sell at auction. Growers remaining in the program could be burdened with larger no-net-cost assessments if costs of maintaining large loan stocks were spread among fewer growers.

WINDOW on the PAST

Excerpts from USDA publications

The World's Exhibit of Leaf Tobacco at the Paris Exposition of 1900

The cultivation and manufacture of tobacco has become an industry of great importance to every civilized country of the world. Few products of the soil contribute more to the support of the Government than tobacco, and this applies to most countries whether producing or importing. At the world's exhibit in Paris, where all the countries were invited to display the resources and products of their soil, at least thirty countries placed on exhibit leaf tobacco, hoping by this contest to extend their trade and create new demands for their leaf. . . .

Among the leaf-tobacco exhibits most worthy of note may be mentioned those of the Dutch East Indies (Sumatra, Borneo, and Java), Cuba, Mexico, Brazil, Turkey, Italy, Japan, France, Germany, Russia, Hungary, Bosnia and Herzegovina, Greece, Serbia, Canada, and the United States of America. . . .

The collective exhibit made by the Department of Agriculture of the United States may justly be considered the largest and most comprehensive display of leaf tobacco ever gotten together . . . a collection of nearly 2,000 samples was prepared and exhibited.

Yearbook of Agriculture, 1900

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Commodity Spotlight

Marketings in 1999/2000 are forecast at about 536 million pounds, compared with 589 million a year earlier. The effective quota of 690.1 million pounds will likely be under-produced by less than 25 percent, compared with a shortfall of nearly 40 percent last season. Since 1985, marketings have consistently fallen short of the effective quota, especially in Tennessee. Beginning in 1991, the quota law was changed to permit greater use of burley quota, including belt-wide sales of burley quotas within counties, and lease and transfer of quotas across county lines in Tennessee. These changes make it easier for quotas to be aggregated into economically feasible operations.

U.S. auction sales began on November 29 and were open for 13 sales days before the Christmas break. During the first 8 days, 235 million pounds were sold for an average price of \$1.90 per pound. Loan takings were 76 million pounds, or 33 percent of producer marketings. The 1998 crop sold for an average \$1.903 per pound, up 1.8 cents per pound from the previous marketing year's \$1.885. In 1999, price supports will average \$1.789 per pound for all burley grades, a gain of 1.1 cent per pound. The no-net-cost fee (an assessment paid by growers and buyers to cover costs of the price support programs) is 3 cents per pound each for growers and purchasers. Burley producers, like flue-cured growers, will likely face a cut in cash receipts.

Domestic use of U.S. burley in 1998/99 is expected to slide about 8 percent from

1997/98 to about 350 million pounds, a much smaller decline than the previous year's. About 63 percent of the crop will be used for domestic cigarette production, 34 percent exported, and the remainder used for other products, primarily smoking tobacco. Lower cigarette output and reduced leaf exports contributed to the decrease in use. Carryover of U.S.-grown burley is expected to rise about 6 percent as marketings exceed use. For the 1998/99 marketing year, exports should total 168.7 million pounds, just above 1997/98, but short of the previous year's record 209.5 million pounds.

The November 1998 tobacco settlement between cigarette manufacturers and state attorneys general is having a significant effect on tobacco growers. Cigarette manufacturers increased prices to cover costs of the settlement, driving consumption down. Declining cigarette consumption caused manufacturers to reduce cigarette production and purchases of leaf. Unless higher exports or reduced imports of leaf compensate to maintain total use of tobacco, the USDA tobacco program will automatically stabilize the market by reducing marketing quotas for growers, preventing an oversupply which would drive prices down. Although prices are steadied for the next year, nothing can compensate for the underlying slide in overall demand for leaf and the inevitable reduction in grower incomes in the longer run. **AO**

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Upcoming Reports—USDA's Economic Research Service

The following reports will be issued electronically on dates and at times (ET) indicated.

January

- 12 *World Agricultural Supply & Demand Estimates (8:30 am)*
- 13 *Oil Crops Outlook (4 pm)***
*Rice Outlook (4 pm)***
- 14 *Feed Outlook (9 am)***
*Wheat Outlook (9 am)***
- 20 *Sugar & Sweeteners**
- 25 *U.S. Agricultural Trade Update (3 pm)*
- 26 *Livestock, Dairy, & Poultry (4 pm)***

February

- 11 *World Agricultural Supply & Demand Estimates (8:30 am)*
- 14 *Cotton & Wool Outlook (4 pm)***
*Oil Crops Outlook (4 pm)***
*Rice Outlook (4 pm)***
- 15 *Feed Outlook (9 am)***
*Wheat Outlook (9 am)***
- 22 *Agricultural Outlook**
- 24 *Outlook for U.S. Agricultural Trade (3 pm)*
- 28 *Agricultural Income & Finance**
- 29 *U.S. Agricultural Trade Update (3 pm)*
- 29 *Livestock, Dairy, & Poultry (4 pm)***

*Release of summary, 3 p.m.

**Available electronically only

Looking ahead in 2000...

- * China's accession to the World Trade Organization
- * Biotechnology and its effects on grain marketing
- * Retrospective: farm policy in the 20th century
- * Issues for the wheat industry in the 21st century

...in upcoming issues of *Agricultural Outlook*

World Agriculture & Trade



Suchada Langley

Agricultural Trade & the 1997-99 International Financial Crises

The 1997-99 international financial crises that began in parts of Asia and spread to the former Soviet Union and Brazil led to lower currency values, reduced economic growth, and higher interest rates in crisis countries, and affected agricultural prices, production, consumption, and trade worldwide.

While currency depreciation helped some agricultural producers in the crisis countries by making their products more competitive in export markets, depreciation generally hurt crisis-country consumers as domestic prices climbed. Expanded agricultural production and reduced imports improved the short-term agricultural trade balance of crisis countries, but long-term gains in competitiveness will only come if the improved trade relationships last as the crises wane. For the U.S., the financial crises and depressed global commodity prices reduced agricultural exports and decreased the agricultural trade surplus, but lowered costs for imports and helped to keep inflation in check.

Prior to 1997, the Asian economies had experienced a decade of extraordinary growth. Bank lending was the major vehicle for financing the economic expansion, and a large part of the investment funds came from abroad. However, the rapid

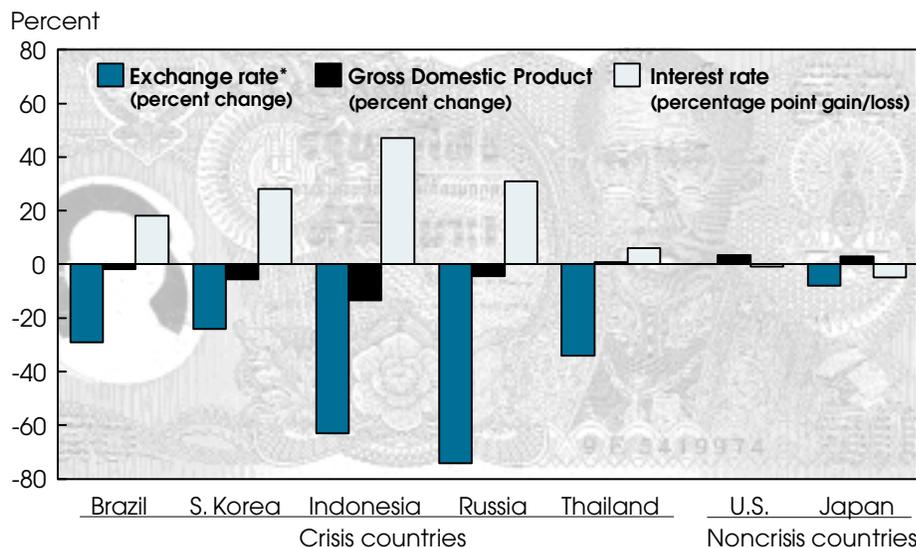
growth was fueled mainly by increases in the quantity of inputs used in production (primarily labor and capital) rather than a rise in productivity. Lagging productivity growth diminished the long-term potential of investment in these economies and

reduced the likelihood that returns would be sufficient to repay lenders.

Weaknesses in the financial and banking systems (including corruption and favoritism in lending), high dependence on short-term foreign debt denominated in dollars, and insufficient financial oversight increased the vulnerability of the crisis countries. As concern over the viability of bank lending mounted, weaknesses in the financial and banking systems combined with investor panic to create a situation akin to a bank run, triggering capital flight (particularly foreign capital) and plunging equity (stock) prices. Central banks in the crisis countries depleted foreign reserves trying to defend fixed exchange rates of the affected countries in the face of growing capital flight. Rapidly declining reserves further hurt investors' confidence and put more pressure on exchange rates. The deteriorating situation became a crisis in summer 1997.

The financial and economic consequences for crisis countries were severe: 35-75 percent depreciation in currencies, 2-14 percent reductions in income, and 6-47 percent rises in interest rates during 1997-99. The financial turmoil that erupted in Thailand in July 1997 and subsequently

During 1997-99 Financial Crises, Growth Rate Declined In Crisis Countries and in Japan



Data cannot be interpreted as solely the result of the crises. Crisis stage varies among countries—1997-98 for Asian countries, 1998-99 for Russia, and 1999 for Latin America.

*Changes relative to the U.S. dollar.

World Agriculture & Trade

Trade Volume of Many Commodities in 1998 Reflected Impacts of Crises

	Rice	Wheat	Corn	Soybeans	Soybean meal	Soybean oil	Cotton	Cattle hides	Beef	Pork	Poultry
<i>Percent change from 1997¹</i>											
Crisis countries											
<i>Imports</i>											
Brazil	29	8	-46								
Korea	156	41	-14	-10	27	9	-4	-30	-45	-14	-52
Indonesia	116	55	-32	-86	-39		-22	-18	-71	-86	-41
Russia		97					12		5	5	-79
Thailand	Nc		-3	-21	-36						
<i>Exports</i>											
Brazil				112	-3	47	-25	-18 ²	66	-5	19
Thailand	-10		35	142							41
Noncrisis countries											
<i>Imports</i>											
Japan	-12	-9	-0.3	-6	9		3	-16	3	-1	0.3
U.S.	14	9	127	-20	78	22		-17 ²	13	11	-33
<i>Exports</i>											
U.S.	Nc	Nc	30	-9	-26	-24	-44	-24 ²	2	18	-2

Nc = No change.

1. Data are for U.S. marketing year (e.g., for soybeans, September 1998-August 1999 compared with same period in 1997/98) and January-December for other countries, except Brazil (January-June 1999 compared with same period in 1998 and Indonesia (January-May 1998 compared with same period in 1997). 2. Value terms.

Note: Data in this table cannot be interpreted as solely the impacts of the financial crises. For example, Korean rice imports increased due to government timing of purchases.

Source: ERS/USDA; World Trade Atlas; and country sources.

Economic Research Service, USDA

spread to other countries set back world economic growth and trade.

This article is based on a study by USDA's Economic Research Service (ERS) that details the impacts of economic upheaval on a group of crisis countries—Thailand, Indonesia, South Korea, Russia, and Brazil—and on a selected group of noncrisis countries—China, Japan, Taiwan, and the U.S.

Crisis & Contagion

The most immediate effect of large-scale capital flight was major depreciation of crisis countries' currencies. Currency depreciation drove up import prices for consumers and producers in the crisis countries, and fueled economywide inflation. Producers of primary tradable commodities that did not rely heavily on imported inputs for production tended to benefit from currency depreciation and higher domestic prices, while producers of high-value-added products who depended heavily on imported inputs and borrowed capital saw costs escalate.

Consumption effects were more severe in the original crisis countries in this

study—Korea, Indonesia, and Thailand—because they were the first to suffer rising domestic prices and significant declines in income and wealth. In Korea, for example, real gross domestic product (total goods and services) fell 5.8 percent in late 1997 through 1998, unemployment rose from 2 percent to 6.5 percent, and consumption expenditures declined almost 2 percent as many consumers lost income and wealth from across-the-board salary reductions and plummeting stock-market values. For noncrisis countries, the economic effects of the crisis were generally not as severe, although the extent depended on their economic conditions at the outset.

The economic crises and depressed global commodity prices adversely affected U.S. agriculture and other trade-dependent sectors, although the employment and income effects were less long-lasting and severe than during the 1980's developing country debt crisis. Crisis countries' demand for U.S. products fell overall, but the decline in the volume of U.S. agricultural exports to Asian countries was offset partly by an increased volume of exports to noncrisis regions, especially NAFTA trading partners. North America is close

to surpassing East Asia for the first time as the number-one regional market for U.S. food and agricultural exports.

While lower U.S. agricultural exports and higher imports narrowed U.S. agricultural trade surpluses, U.S. market share was essentially stable for most commodities, in volume terms, in major markets such as Japan. The decline in total value of agricultural exports—down 15 percent in fiscal year (FY) 1999 from FY1997—was predominantly a price phenomenon, caused by large supplies from major exporting countries along with weakened demand from crisis-affected countries. The net effect on U.S. producers' farm income was negative.

The effects of exchange rate changes on commodity prices for U.S. exports depended on how quickly and completely price impacts were passed through to producers and consumers (i.e., exchange rate pass-through). The degree of exchange rate pass-through is specific to a commodity and depends on factors such as competitiveness of the industry, substitutability of the product, and U.S. share of the market in a given country. For example, the response of prices in the Japanese import

market to changes in dollar/yen exchange rates was relatively high for U.S. corn and soybeans—the U.S. captures a large share of the import market for these relatively homogeneous commodities—compared with pork and poultry in which the U.S. is less dominant in Japan.

Agricultural Sector Adjustments

The crises affected agricultural production and prices, consumption, and trade.

Production and prices. Higher domestic prices (in domestic currency) as a result of currency depreciation during the early stage of the crisis led to an increase in commodity production in Brazil, Indonesia, and Thailand. Most notable was increased output of primary commodities, whose prices rose more than prices paid for inputs. In Brazil, for example, farmers benefited from higher prices in terms of the local currency (the *real*) when domestic live poultry prices rose in relation to production costs (mostly corn), leading to a 5-percent increase in poultry production after the Brazilian crisis began in January 1999.

The 1997-98 Asian crisis appeared to stop the rise of wage rates and slow the exodus of labor from farms. Farming became a more attractive alternative when jobs in cities became hard to find, and rising domestic prices for farm products provided an incentive for people to move back to farms and rural areas. The financial turmoil reduced wage costs in both rural and urban sectors in Korea, Thailand, and Indonesia.

Negative effects on production occurred when prices for output did not rise sufficiently to offset increased input prices. For some farm commodities heavily dependent on imported inputs such as fertilizer, feed, seeds, or chemicals, lower currency values led to higher costs of production, resulting in a cost-price squeeze for producers in some sectors, such as textile production in Thailand and poultry and textile production in Indonesia.

Higher interest rates adversely affected agricultural production in some countries at the early stage of the crisis. In Korea, for example, as livestock producers antici-

pated higher interest rates combined with higher feed prices from the depreciated Korean won, Korean livestock producers rushed cattle to market for slaughter in December 1997. As a result, beef production temporarily increased and prices declined.

Consumption. Consumption of agricultural commodities in crisis countries declined because of higher prices for domestic and imported goods, lower income from slowed economic growth, and general inflation brought on by currency depreciation during the crises. The annual inflation rate at the peak of the crisis in Thailand was 8 percent, as high as 70 percent in Indonesia, and nearly 8 percent in the first 5 months of Brazil's crisis.

Higher food prices and lower income induced diet changes and in some cases changed consumers' buying strategies, at least in the short run, in many affected countries. Indonesian consumers substituted cheaper tofu protein products for expensive meat, causing soybean imports to increase and meat and corn imports to decline. Wheat products such as bread had been a popular item among Asian consumers. After the crisis, as the cost of wheat and wheat flour increased, Asian consumers switched to cheaper sources of carbohydrates such as rice. Indonesian per capita wheat consumption, for example, fell 39 percent. Even in noncrisis countries like Japan, consumers turned to lower quality (and lower priced) cuts of imported beef.

Trade. Currency depreciation raised prices of imports and exports in terms of domestic currency, but lowered prices of exports in terms of foreign currency. Export prices rising more than import prices makes a country more competitive in international trade, and depreciation may thus have a beneficial impact on its balance of trade. However, the effect may vary among sectors. In Korea, for example, export prices overall increased more than import prices, but for agricultural commodities, export prices increased less than import prices, because of the worldwide drop in agricultural commodity prices.

Trading firms adjusted their mix of goods when currency depreciation raised prices.

Sheep hides and skin or low-quality hides and skin were substituted for higher quality cattle hides and skins. In Indonesia, cheaper and lower quality Vietnamese rice (25-percent broken) substituted for Thai rice (5-percent broken). Polyester replaced cotton in shipments to Thailand and Korea. Brazilian importers switched from expensive milled rice to paddy rice, raising paddy rice imports by 244 percent during January-June 1999. For noncrisis countries such as Japan, the effects of reduced global commodity prices for some imported commodities outweighed the exchange-rate effects of the lower yen, benefiting importers.

High credit costs in some countries hindered export potential, particularly for those export commodities that depended on imported inputs such as cotton, feeds, and hides. Textile industries in Indonesia and Thailand were particularly hard hit as credit constraints set back their export potential. Indonesia's poultry industry collapsed due partly to expensive credit and high costs of imported feeds.

The value of U.S. agricultural exports dropped \$8.3 billion—about 15 percent—from FY1997 to FY1999. In volume terms, the decline in exports to the crisis-affected countries was almost offset by increased exports to other regions, particularly NAFTA countries. This suggests that the decline in value was due mainly to lower export prices, in large part from record world grain and oilseed output that contributed to depressed global prices. U.S. agricultural imports also increased during the same period, reflecting the robust U.S. economy and growing demand for variety and off-season supply of horticultural and other products.

Changes in agricultural policy in response to the crisis affected trade. Elimination of the Indonesian monopoly agency (BULOG) that has authority over imports of rice, wheat, soybeans, and garlic was a

An International Agriculture and Trade Report, "International Financial Crises and Macroeconomic Linkages to Agriculture," will be published by USDA's Economic Research Service in winter 1999/2000. Watch for it on the ERS website www.econ.ag.gov.

World Agriculture & Trade

direct result of the financial crisis, and affected trade of those products. The International Monetary Fund, along with other organizations, arranged multibillion dollar financial aid packages for Indonesia, Korea, Thailand, Russia, and Brazil that spelled out conditions to be met by recipient countries. As part of its \$42-billion IMF-led financial aid package, Indonesia agreed to reduce import tariffs on food and to open its market for rice, wheat, soybeans, and garlic. But BULOG still retains a key role in rice purchasing, distribution, and inventory management. The U.S., as well as other developed countries, responded to the crises in Asia and other areas by providing financing to the crisis-affected countries to help them pay for imported agricultural products.

Varying Impacts Of the Crises

The international financial crises during 1997-99 were severe for economies of the directly affected countries. The impacts of the crises vary among crisis and noncrisis countries, as well as among different economic sectors within a given country. The ERS study indicates that market impacts in the crisis countries from significant depreciation of their currencies, accompanied by changes in interest rates and income, depended on existing economic conditions, government policies, and the financial and banking institutional framework prior to the crisis.

Impacts on agricultural sectors in the crisis countries were mixed, raising production of some commodities and lowering others, and were also a function of prevailing economic conditions, agricultural policies, interest rates, price effects of exchange rate changes, and credit conditions within individual countries.

Production of some primary agricultural commodities increased, providing an incentive for some farmers to stay on the farm and motivating some workers in the

cities to trade job scarcity for the pursuit of agricultural activities in rural areas.

Currency depreciation boosted agricultural exports from crisis countries by making prices more favorable to foreign purchasers, but imports decreased as income and wealth declined and goods from abroad became relatively more expensive than domestic products. Faltering demand in the crisis countries reinforced the general downward trend of world agricultural prices, contributing to a reduction in value of U.S. agricultural exports and a narrowing of the U.S. agricultural trade surplus.

The effects of the crises on U.S. agriculture were determined by the existing structure of industries, relative use of capital and labor, and the nature of competition with other countries while the crises persisted. While the financial crises in Asia, Brazil, and Russia have had some impact on U.S. agricultural trade, export volume has remained fairly steady as the U.S. has been shifting to less reliance on Asia and toward greater reliance on NAFTA trading partners as a market and supplier of imports. The value of U.S. agricultural exports fell significantly, largely from price declines as a result of record world grain and oilseed production.

The value of Asian currencies stabilized in 1998 and interest rates have since declined, but crisis-country economies continued to contract through the end of the year. After 2 years of setbacks, some crisis economies finally started to turn the corner in 1999, with South Korea and Thailand leading the recovery. With increasing economic growth in Asia, the market for food and agricultural products will once again grow. The volume of U.S. agricultural exports is expected to rise in FY2000, but value is expected to remain flat at \$49 billion. **AO**

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January Releases—USDA's Agricultural Statistics Board

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.

January

- 4 *Dairy Products*
- 5 *Broiler Hatchery*
- 7 *Dairy Products Prices (8:30 am)*
Poultry Slaughter
- 11 *Cotton Ginnings (8:30 am)*
Crop Production (8:30 am)
Egg Products
- 12 *Crop Production—Ann. (8:30 am)*
Grain Stocks (8:30 am)
Rice Stocks (8:30 am)
Winter Wheat & Rye Seedlings (8:30 am)
Broiler Hatchery
Turkeys
- 13 *Turkey Hatchery*
Vegetables
- 14 *Dairy Products Prices (8:30 am)*
Potato Stocks
Vegetables—Ann.
- 18 *Milk Production*
- 19 *Broiler Hatchery*
- 20 *Catfish Processing*
Noncitrus Fruits & Nuts Prelim.
- 21 *Dairy Products Prices (8:30 am)*
Cattle on Feed
Cold Storage
Livestock Slaughter
- 25 *Cotton Ginnings (8:30 am)*
- 26 *Broiler Hatchery*
- 27 *Peanut Stocks & Processing*
- 28 *Dairy Products Prices (8:30 am)*
Capacity of Refrig. Wareh. Cattle
Chicken & Eggs—Ann.
Sheep & Goats
Wool & Mohair

The next issue of *Agricultural Outlook* will appear in March.

Farm & Rural Communities



Jack Harrison

A Safety Net for Farm Households?

Current low prices for key farm commodities, combined with the 1996 Farm Act's lessening of farm sector reliance on government programs, are generating fundamental questions about the ultimate goals of farm policy and about alternative farm safety-net concepts. Most discussions of the farm safety-net issue focus on traditional farm program instruments, such as crop insurance and direct payments. While these policy tools provide income support to production agriculture—the farm *business*—their rationales are unlike most other forms of government support to individuals, which focus on the economic circumstances of *households*.

This article provides a general illustration of several scenarios for government assistance to agriculture, drawing on Federal programs that assist low- and middle-income households and that are based on the concept of ensuring some minimum standard of living. A review of current Federal assistance programs reveals a variety of ways to provide a safety net using this concept. Guided by these examples, USDA's Economic Research Service (ERS) constructed three scenarios for assisting farm households, based on different definitions of minimum standard of living: 1) regional median household income,

2) 185 percent of the poverty line, and 3) average household expenditures.

The costs of the three scenarios in 1997, a relatively good year for agriculture, were measured as the cumulative difference between each farm household's income (which includes any direct government payments) and these thresholds. A fourth scenario is presented, based on the amount of compensation necessary to ensure that self-employed farm operators receive an adequate return to their labor and management.

Any discussion of government programs that assist farmers would involve not only a consideration of policy goals but also a recognition of the heterogeneity of the farm sector. There is no representative farm, and program impacts would vary depending on various farm characteristics.

To capture the economic and geographic diversity of today's agriculture, ERS has already developed a farm typology (AO November 1999) and a regional segmentation (AO April 1999). The farm typology considers not only the size of the farm business, but also whether farming is the primary occupation of the operator; the regional scheme reflects geographic spe-

cialization in commodity production. Using these farm classification schemes, ERS compared the four alternative safety-net scenarios in terms of cost, distribution of farm household benefits, and rate of qualification for assistance, and contrasted the scenarios with the amount and distribution of actual direct government payments to farmers in 1997. The scenarios make no assumptions about whether safety-net payments are a substitute for or an addition to current farm program payments.

The first three safety-net scenarios—based on thresholds of regional median household, percentage of poverty line, and average household expenditures—were applied to roughly 1.7 million farm households (80 percent of total farms) identified in USDA's 1997 Agricultural Resource Management Study (ARMS). Operations classified in the ERS farm typology as *retirement farms* and *very large family farms* (gross sales of \$500,000 or more) are not considered. The former group is not as actively engaged in farming, while the latter tend to support more than one household at income levels well above the thresholds used here.

The fourth scenario constructed by ERS—based on compensation for farm labor and management—is limited to operators who identify farming as their primary occupation and whose farm businesses are organized as sole proprietorships. This group included about 700,000 farm businesses in 1997 (36 percent of total farm businesses).

While this study considers the impacts on farm types and on regions separately, the information is aggregated by region, and the distribution of farm types within regions can partially explain any disparity in the regional impacts for a given scenario. The analysis presented here does not consider implementation costs nor any secondary costs that may arise from the negative incentives created by programs employing similar bases for support. No adjustments or assumptions are imposed on existing farm programs. Farm household income is defined here on a before-tax basis.

Farm & Rural Communities

Defining the Farm Typology Groups

Small Family Farms (sales less than \$250,000)*

Limited-resource. Any small farm with gross sales less than \$100,000, total farm assets less than \$150,000, and total operator household income less than \$20,000. Limited-resource farmers may report farming, a nonfarm occupation, or retirement as their major occupation.

Retirement. Small farms whose operators report they are retired (excludes limited-resource farms operated by retired farmers).

Residential/lifestyle. Small farms whose operators report a major occupation other than farming (excludes limited-resource farms with operators reporting a nonfarm major occupation).

Farming occupation, lower-sales. Small farms with sales less than \$100,000 whose operators report farming as their major occupation (excludes limited-resource farms whose operators report farming as their major occupation).

Farming occupation, higher-sales. Small farms with sales between \$100,000 and \$249,999 whose operators report farming as their major occupation.

Other Farms

Large family farms. Farms with sales between \$250,000 and \$499,999.

Very large family farms. Farms with sales of \$500,000 or more.

Nonfamily farms. Farms organized as nonfamily corporations or cooperatives, as well as farms operated by hired managers.

* The \$250,000 cutoff for small farms was suggested by the National Commission on Small Farms.

Scenario 1: Regional median household income

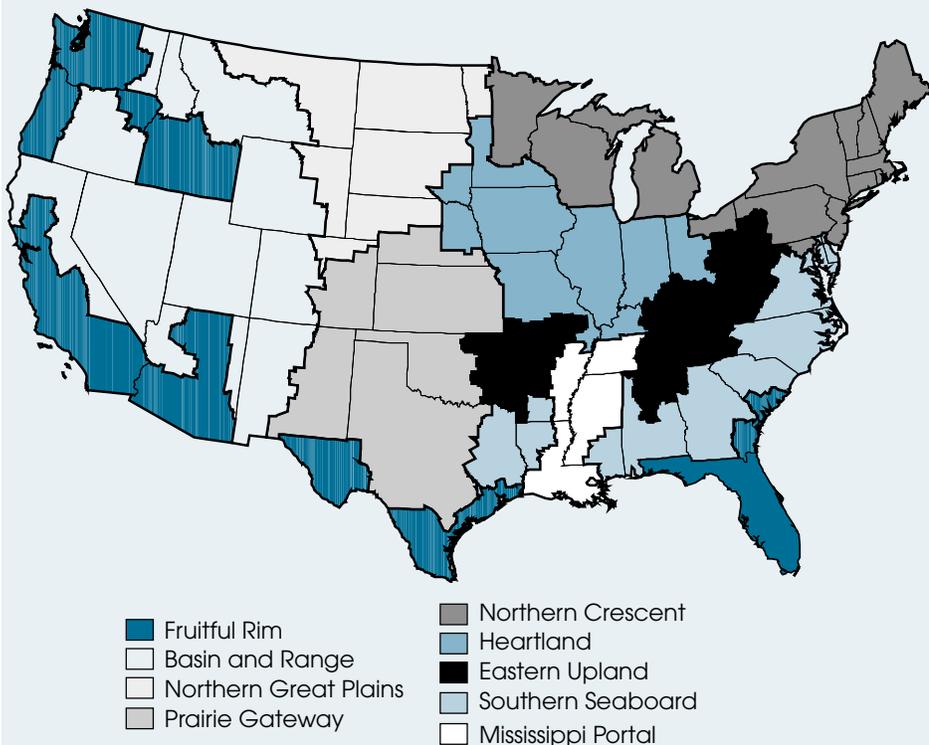
Safety-net costs for Scenario 1 are based solely on bridging the gap between median household incomes in each region and actual farm household income that falls below the median (see page 21 for definition of farm household income). The median U.S. household income in 1995 was \$35,050, based on data from the Bureau of the Census. County incomes from which the U.S. median is derived were weighted by the number of county households and averaged to obtain regional median income estimates. The Consumer Price Index (CPI) was used to adjust these estimated regional median household incomes to 1997 values. Costs and distribution of benefits are estimated by farm type and region for 1997.

Annual costs of a farm safety net based on median regional household income are estimated at \$12.5 billion for 1997 (\$17,275, on average, per qualifying household). The farm typology group that would receive the majority of benefits are the *limited-resource* and the *farming occupation, lower-sales* farm households. Costs of this safety-net scenario were lowest for the *large family farm* typology group, totaling about \$260 million.

While each farm typology group contained farms with incomes below the safety-net threshold, the proportion that would qualify for assistance varied greatly. For example, nearly all *limited-resource* farm households qualified for assistance using this safety-net measure. In contrast, only 17 percent of *large family farm* households qualified. More than one in three farms designated as *farming occupation, higher-sales* qualified for assistance, although closing their gap costs less than for the *residential/lifestyle* group, where only 29 percent qualified for assistance. The costs of ensuring a minimum standard of living depend on both the number of households that qualify for assistance and the magnitude of difference between their household income and the threshold level.

Costs for the regional median household income scenario were highest in the Northern Crescent and Eastern Uplands regions (where *limited-resource* and/or

Farm Resource Regions



Source: Economic Research Service, USDA

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farming occupation, higher-sales farms are numerous) and the Heartland region (the most farm populated), which together accounted for almost 60 percent of total safety-net costs. Safety-net costs were lowest in the Basin and Range region, although a high proportion of farm households in this region qualified as a result of the low household income of *residential/lifestyle farms* in that region. The high share of qualifying farm households largely reflects reduced opportunity in the Basin and Range region's nonfarm economy, because for the majority of U.S. residential/lifestyle farm households, off-farm income more than offsets any negative farm income. In 1997, only three regions—the Northern Crescent, Southern Seaboard, and Basin and Range—had 50 percent or more of farms qualifying for assistance using this safety-net measure.

Scenario 2: 185 percent of the poverty line

Several Federal assistance programs target households with incomes less than 185 percent of the poverty threshold, including the Supplemental Nutrition Program for Women, Infants, and Children (WIC) and the National School Lunch and School Breakfast Programs.

The poverty line for a family of four (the size of the average farm family) was \$16,400 in 1997; 185 percent of this amount is \$30,340. Safety-net costs for Scenario 2 are based on bridging the gap between 185 percent of the poverty level and the actual income of each farm household that falls below this level in each farm type and region.

The annual costs of this safety-net scenario are estimated at \$7.8 billion for 1997 (\$15,120, on average, per qualifying household). With the threshold about \$8,000 less than for Scenario 1 (regional median household income), costs in Scenario 2 were nearly \$5 billion less. Under Scenario 2, about 514,000 farm households would receive assistance, compared with almost 730,000 households with the threshold of regional median household income.

As in Scenario 1, the bulk of benefits under this scenario would accrue to farm households in the *limited-resource* and

Farm Operator Household Income: What It Does & Does Not Measure

Farm operator household income is measured according to the definition of income used in the Current Population Survey (CPS), conducted by the Bureau of the Census. The CPS is the source of official U.S. household income statistics. Calculating an estimate of farm household income that is consistent with CPS methodology allows comparisons between the income of farm households and all U.S. households.

The CPS defines income to include any receipts of cash. The CPS definition departs from a strictly cash concept by deducting depreciation, a noncash business expense, from the income of self-employed people. The derivation of operator household income from the 1997 Agricultural Resource Management Survey is outlined below.

	<i>\$ per farm</i>
Net cash farm business income	12,676
Less depreciation	6,578
Less wages paid to operator and gross farmland rental income	1,081
Less adjusted farm business income due to other households	1,505
	<i>\$ per household</i>
Equals adjusted farm business income	3,513
Plus wages paid to operator, net farmland rental income, and other farm-related earnings	2,692
Equals earnings of the operator household from farming activities (incl. direct government payments)	6,205
Plus earnings of the operator household from off-farm sources	<u>46,358</u>
Equals average farm operator household income	52,562

Net cash farm business income presented above differs from sector net cash income. Net cash farm business income is a component of farm sector income. It excludes the income of contractors, landlords, farms organized as nonfamily corporations or cooperatives, and farms run by a hired manager.

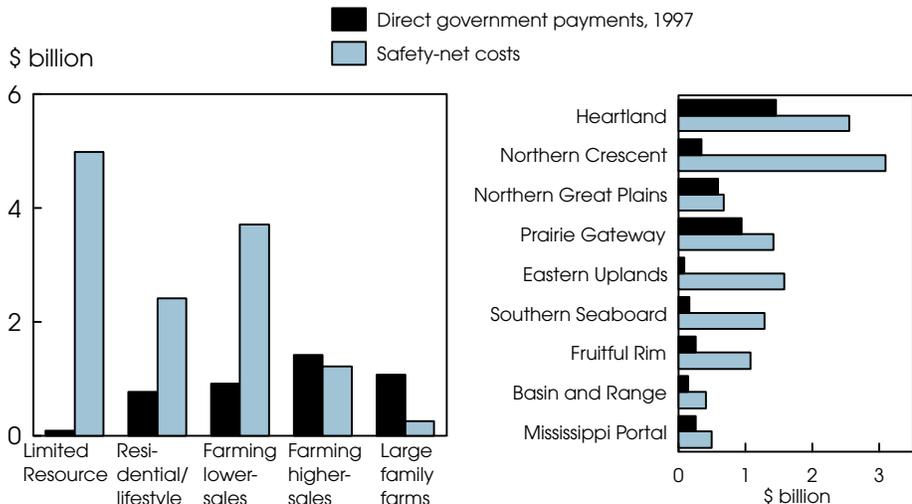
Earnings of the operator household from farming activities is not a complete measure of economic well-being provided by the farm. It leaves out some resources the farm business makes available to the household. For example, depreciation is an expense deducted from income that may not actually be spent during the current year. Household income also excludes noncash income, or the imputed rental value of the farm dwelling plus the value of farm products consumed on the farm, largely food and firewood.

Finally, earnings of the operator household from farming activities does not reflect the large net worth of many farm operator households. Most of this net worth is not readily available for household spending, since it is largely based on assets necessary for farming. However, some current assets are liquid. Farms may have inventories of crops, livestock, and production inputs that could be sold in emergencies. They may also have accounts receivable that could yield cash in a short time.

Farm & Rural Communities

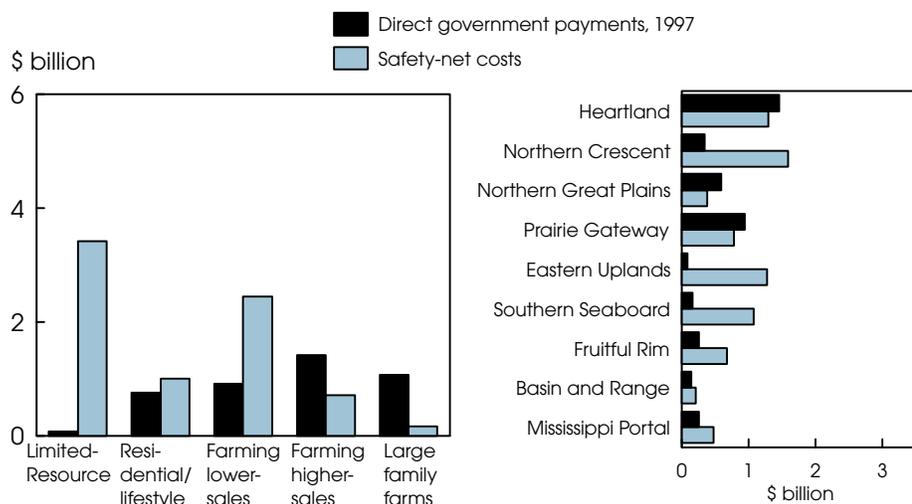
Safety-Net Costs—Comparison with Current Farm Programs By Typology and Region

Scenario 1: Regional Median Household Income (est. total cost \$12.5 billion)



Excludes 1997 direct payments to very large family farms, nonfamily farms, and landlords.

Scenario 2: 185 Percent of Poverty Threshold (est. total cost \$7.8 billion)



Excludes 1997 direct payments to very large family farms, nonfamily farms, and landlords.

Economic Research Service, USDA

farming occupation, lower-sales groups. These two typology groups have the highest proportion of farms that qualify for assistance, 96 percent and 45 percent, respectively.

Average cost per recipient is highest for the *limited-resource* and *large family farm* classifications, each having costs at over \$18,000 in 1997. This result may be

indicative of the chronic nature of low household income for *limited-resource* farm households, while more reflective of a short-term cash flow problem of the farm business for the *large family farm* households, all of which depend on farming as their principal source of income and are more susceptible to farm business losses resulting from poor weather and other factors.

The regional concentration of costs is similar to results for the median household income safety net. Three regions—the Heartland, Northern Crescent, and Eastern Uplands—account for over 50 percent of total costs for 1997. The Basin and Range, Northern Great Plains, and Mississippi Portal Regions were the lowest cost regions. The low cost for the Northern Great Plains was surprising, given that this region had the largest share of farms classified as *farming occupation, lower-sales*, and the lowest average household income at \$38,911 in 1997. However, many qualifying farm households in this region had income in 1997 that was not very far below the 185 percent of poverty threshold level.

Scenario 3: Average adjusted expenditures

Safety-net costs for Scenario 3 are based on the gap between average adjusted U.S. household expenditures and the actual income of each farm household that falls below that threshold. U.S. household expenditures averaged \$33,797 in 1996, according to the Consumer Expenditure Survey. However, housing and transportation expenditures incurred by farm households are about half those incurred by U.S. households. To reflect this, average U.S. household expenditures were adjusted to \$25,863 for this study. This adjustment does not imply that farm households spend less on housing and transportation than other households, but that some of these expenses are commingled with the farm business.

Total cost for 1997 of a safety net based on average adjusted expenditures is estimated at \$6.1 billion (\$13,500, on average, per qualifying household), lower than the safety-net scenarios based on median household income and on 185 percent of poverty. About 450,000 farm households (25 percent of the 1.7 million farm households considered in the analysis) would have qualified for assistance in 1997 under Scenario 3.

Accounting for more than 70 percent of the total cost of this safety-net measure are households in the *limited-resource* and *farming occupation, lower-sales* typology groups. Ninety percent of *limited-resource* households and 30 percent of *farming*

Farm & Rural Communities

occupation, lower-sales households had incomes below the safety-net threshold. In contrast, only about 10 percent of the residential/lifestyle and large family farms categories qualified for assistance.

The Northern Crescent and Eastern Upland regions had the highest Scenario 3 safety-net costs, estimated at \$1.2 billion and \$950 million, respectively. Costs in the Northern Crescent region are accumulated primarily by farm households classified as *farming occupation, lower-sales*. In the Eastern Upland region, *limited-resource* farms account for two-thirds of the cost. In the Fruitful Rim region, which is characterized by relatively large specialty crop farms, average cost per qualifying household is \$23,000, nearly two times higher than for other regions. Many specialty crop farms are large operations, which require the full-time employment of the operator and family. In this situation, the farm household is entirely dependent on farm income.

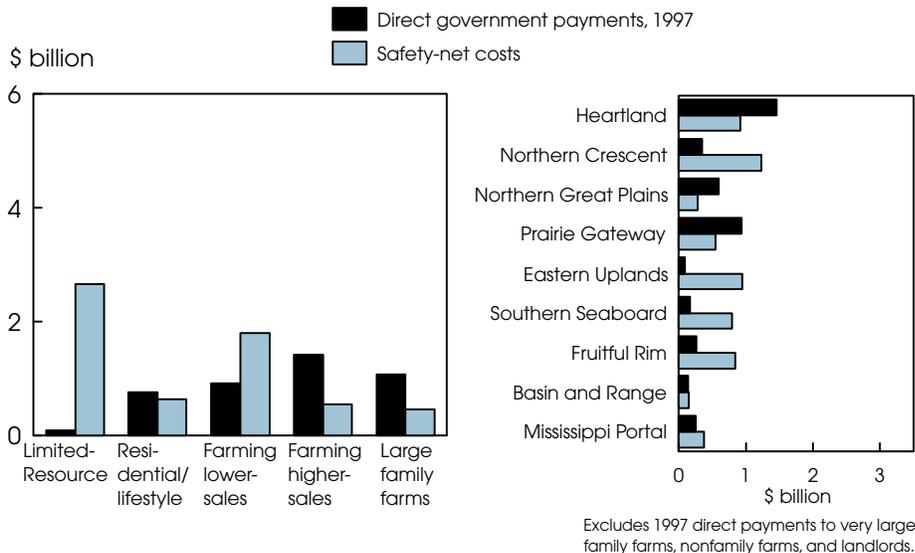
Scenario 4: Median hourly earnings of the nonfarm self-employed

A safety-net measure based on median hourly earnings focuses more specifically on the ability of farm businesses to provide an adequate return to owner/operators (rather than focusing on farm household income). Farm households would benefit as earnings for the farm business are supplemented.

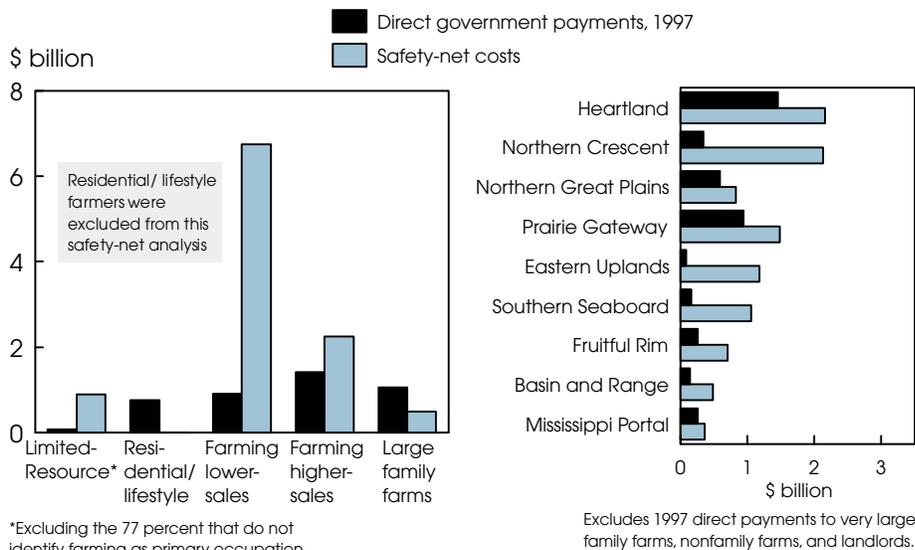
Median hourly earnings of nonfarm self-employed individuals who worked at no other job amounted to \$10 per hour in 1997, according to the Bureau of the Census Current Population Survey. Safety-net costs for Scenario 4 are based on the difference between the median hourly earnings of nonfarm self-employed persons and the estimated hourly earnings of farm operators who identify their primary occupation as farming and whose earnings fall below the median. To calculate the earned income gap used to estimate costs and distributional effects, this hourly wage gap is multiplied by the annual hours worked by each qualifying farm operator and aggregated by farm type and region. Excluded from this scenario are residential/lifestyle farmers and about 77 percent of limited-resource

Safety-Net Costs—Comparison with Current Farm Programs By Typology and Region

Scenario 3: Adjusted Household Expenditures (est. total cost \$6.1 billion)



Scenario 4: Median Hourly Wage of Nonfarm Self-Employed (est. total cost \$10.4 billion)



Economic Research Service, USDA

farms because they do not identify farming as their primary occupation.

Annual cost for the earnings safety net is \$10.4 billion (\$19,915, on average, per qualifying farm); nearly three in four farm businesses qualified for assistance. Among the different farm typology groups, *farming occupation, lower-sales*

farm businesses involved the largest cost, at \$6.7 billion, under this earnings scenario. Most farms in this classification (86 percent) qualified for assistance, second only to the *limited-resource* group, with 98 percent of farm operators (with farming as primary occupation) earning less than the safety-net threshold of \$10 per hour. Average cost per recipient

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ranged from \$14,000 for *limited-resource* farms to nearly \$24,000 for the *farming occupation, higher-sales* category.

Two regions—the Heartland and Northern Crescent—accounted for over 40 percent of the earnings safety-net costs for 1997. These regions contained 36 percent of *farming occupation, lower-sales* farm businesses in 1997. Average costs per recipient ranged from \$15,000 in the Eastern Uplands to over \$23,000 in both the Northern Great Plains and Basin and Range regions. The Eastern Uplands region had the highest share—88 percent—of farm operators qualifying for assistance in any region.

Comparison with Direct Farm Payments

In 1997, direct government payments to farms—including production flexibility contract payments, loan deficiency payments, and other program payments—totaled \$7.5 billion (paid to farmers and landlords). Only one of the scenarios considered here—adjusted average expenditures—generated lower total payments for 1997. Distributional effects by both farm type and region, however, are strikingly different. These scenarios do not assume that safety-net payments are either a substitute or an addition to current farm program payments.

The Federal Agriculture Improvement and Reform Act of 1996 (Farm Act) instituted a shift in Federal farm programs toward increased operator control by removing acreage restrictions. Farmers with a historical production base for wheat, corn, grain sorghum, barley, oats, upland cotton and rice were eligible to sign production flexibility contracts. The legislation provides specific payments to farmers over a 7-year period which generally decline after the first few years (except as modified by subsequent emergency legislation).

The Farm Act also provides for loan deficiency payments (LDP's) for major field crops, including oilseeds. Farmers are eligible for LDP's when posted county prices (or adjusted world prices for upland cotton, and rice) fall below the established government commodity loan rate adjusted for local conditions. The third major com-

ponent of programs providing direct government payments are environmental conservation programs, in which eligible farmers receive annual payments on the amount of environmentally sensitive acreage enrolled in these programs.

About 36 percent of all farms received some type of direct government payment in 1997, with payments per farm averaging \$7,987. By farm typology group, the share of farms receiving payments ranged from less than one-fifth of *limited-resource* farmers to three-fourths of farms in the *farming occupation, higher-sales* and the *large family farm* groups.

With the safety-net concept applied using the alternative scenarios, the distribution of total program benefits would change dramatically. Almost all *limited-resource* farm households would receive safety-net payments. Even though a lower percentage of *farming occupation, lower-sales* farm households would receive benefits than under current farm programs, the amount of payment per recipient would be more than twice as high. The total amount of safety-net payments going to *large* and *very large* farms would be half the amount of direct payments to these categories of farms in 1997.

The regional results also show that under the scenarios described here, farm households in the Northern Crescent, Eastern Uplands, Southern Seaboard, and Fruitful Rim regions would generally receive a higher level and a greater proportion of benefits than under current programs. Farms in these regions generally produce dairy products, beef, hogs, fruits, vegetables, and other farm products which are not under commodity programs.

The Safety Net & Future Farm Policy

This article has presented three approaches to a farm household safety net based on income or expenditure thresholds already used in other Federal assistance programs, and a fourth that is also based on the concept of a minimum standard of living. While implementation issues are not addressed, these safety-net approaches could be used in conjunction with some form of commodity program. Were this minimum-standard type of safety-net con-

cept introduced as policy, the amount of compensation would likely be adjusted to reflect lower threshold levels than used in this analysis, current tax benefits for the poor, and benefits from other Federal assistance programs.

A primary benefit of applying to the agricultural sector a safety-net concept based on supporting a minimum standard of living would be the effectiveness: farm household income changes would be compensated up to some agreed-upon level year-in and year-out, as commodity prices, production, or other factors changed.

The drawbacks of this type of safety net stem from possible negative behavioral incentives. For example, a farmer may see no need to make capital investments or business decisions to improve farm income, knowing that a safety net provides a reasonable and reliable income support without the risk. In the absence of a safety net, some inefficient farmers would exit farming; in the presence of a safety net, these farmers may instead continue to farm. Insofar as society may wish that these farmers exit (e.g., because they operated inefficiently), a safety net can lead to a suboptimal outcome.

The farm sector is clearly heterogeneous, and a one-size-fits-all policy prescription cannot simultaneously fulfill all policy goals. But a clear understanding of objectives and intended beneficiaries must be the starting point for discussions of future farm policy. **AO**

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For more analyses and data on farm households, visit the **Farm Business Economics Briefing Room** on the Economic Research Service website
www.econ.ag.gov/briefing/fbe/

Water Pressure in China: Growth Strains Resources

In China, one of the world's most water-deficient economies, water scarcity is viewed as a major threat to long-term food security. While the agriculture sector is still by far the largest user of China's water resources, rapid economic and population growth is generating rising demand for urban and industrial use, increasing pressure on water supplies.

In 1995, China's annual renewable water resources were estimated at 2.8 trillion cubic meters, which ranked fifth in the world behind Brazil, Russia, Canada, and Indonesia. The U.S. ranked sixth with 2.5 trillion cubic meters. However, in terms of per capita water resource availability, China is one of the lowest in the world.

China and the U.S. face some similar conditions with respect to water. Both countries have large agricultural economies, extensive irrigated cropland, and farmers facing increasing competition for water from urban, industry, transportation, and hydro-power users. But several elements make management of water resources particularly challenging in China, including uneven rainfall distribution, a very large population, several large urban areas in a dry region covering about half the country, and a complex legal/institutional framework for water distribution and use.

China's ability to feed itself will depend, in part, on how it deals with its water problems. The linkages between China's agricultural policy and its water management policy, and implications for the timing and magnitude of water availability, are strategic issues for China's agricultural trade.

Water Resources, Population Distributed Unevenly

A monsoon climate dominates China's rainfall patterns. The monsoon arrives from southeast Asia bringing rain during the spring and summer months and receding in the fall. Normally there is little precipitation in China in winter and the early spring months. The monsoon rains are heaviest in south China, and precipitation becomes progressively less towards the north and west. For the intensively cultivated areas in the north China plain and Manchuria (northeast China), most of the annual rainfall comes in June through September.

Provinces that have an annual average rainfall of less than 600 millimeters can be found in north, northeast, and northwest China. About half of China's arable land is located in this relatively dry area that includes high plateaus and deserts.

Another characteristic of China's water resources is that only a few major rivers, including the Yangzi River (in south China) and the Yellow River (in north China), flow through an extended



Frederick Crook

portion of the country. Many major rivers quickly exit the country and provide major water resources to neighboring countries.

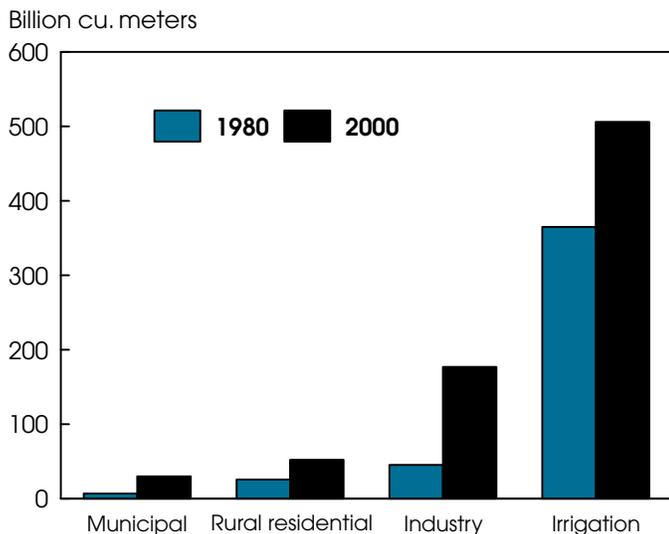
The uneven distribution of rainfall and scope and configuration of China's river basins mean that stream flows and runoff from the basins vary greatly. For example, annual runoff from the Yangzi (also known as Chang) river is estimated to be 1 billion cubic kilometers of water, compared with 0.028 billion cubic kilometers of runoff for the Hai river located in north China.

USDA's Economic Research Service estimates that 34 percent of China's population (1.2 billion total) lives largely in the relatively dry region (north, northeast, and northwest China). The rest

This article is based on 3 years of research by USDA's Economic Research Service on China's water situation and on the visit to China in September 1999 by the U.S. Water Team. The team included representatives from USDA's International Cooperation and Development Division, Foreign Agricultural Service, Agricultural Research Service, Natural Resource Conservation Service, and Economic Research Service, as well as the U.S. Geological Survey. An exchange of teams to study water issues had been proposed by USDA and China's Ministry of Agriculture in December 1997. This article also draws on the "China-U.S. Water Resources Management Workshop" held in April 1999 in Tucson, Arizona. The conference, attended by scientists and researchers from both the U.S. and China, was sponsored by a Working Group of the U.S.-China Forum on Environment and Development. At the 1997-98 meetings in the U.S. and China, both sides agreed to focus attention on environmental and water issues.

Special Article

China's Water Use is Projected Up Sharply



Source: World Bank.
Economic Research Service, USDA

live in provinces on the plains along the eastern seaboard. The dry region is host to large urban centers, including seven cities with populations of more than 2 million people and 81 cities with 200,000-500,000 people. The largest are equivalent in population to major U.S. cities: Beijing, with 7.3 million (San Francisco bay area has 6.7); Tianjin, with 5.2 million (Boston area has 5.8); and Shijiazhuang, with 1.9 million (equal to Cincinnati). These large Chinese cities compete with agriculture for scarce water resources.

The large number of people living in this relatively dry region has great impact on water resource use. In the densely populated Hai river basin, for example, industrial output is growing rapidly, and the basin is intensively cultivated (it is a major grain producing area). However, water availability per capita is only 308 cubic meters per year. In contrast, residents in the Pearl River basin in the wet area of China have 13 times more water available per capita. Clearly, low annual precipitation rates and large populations in some provinces in the dry part of China mean low per capita water resource availability.

Demand Increasing, Usable Water Availability Shrinking

Since economic reforms were initiated in the early 1980's, China's economic growth has been rapid, particularly in the nonagricultural sectors. The manufacturing sector, for example, grew 12 percent annually during the last two decades, compared with 9.8-percent growth in the overall economy.

World Bank analysts estimated that industry in 1980 used 45.7 billion cubic meters of water—10.3 percent of total water consumed. They estimate that by 2000, *industrial use* of water will more than double to 177 billion cubic meters and account for 23 percent of total water use.

Municipal (urban) demand for water has also grown, although it remains a relatively small share of total use. The number of residents in China's cities is projected to increase from 191 million in 1980 to an estimated 400 million in 2000. Urban residents with increasing incomes are buying washing machines and renting apartments that include flush toilets and individual shower facilities—activities that increase urban water use. In 1980, urban residents used 6.8 billion cubic meters of water, 1.5 percent of total water use. By 2000, they are expected to increase use to 29.4 billion cubic meters, 3.8 percent of the total.

Per capita water use in cities varies greatly by region. In Tianjin in the dry Hai basin, for example, residents use only 135 liters of water per day, compared with 339 liters per day in the wet urban areas in the southern province Guangdong. Urban water use in both areas has also increased as mayors in major cities embarked on beautification campaigns to plant trees, shrubs, flowers, and grass along roadways and in municipal parks.

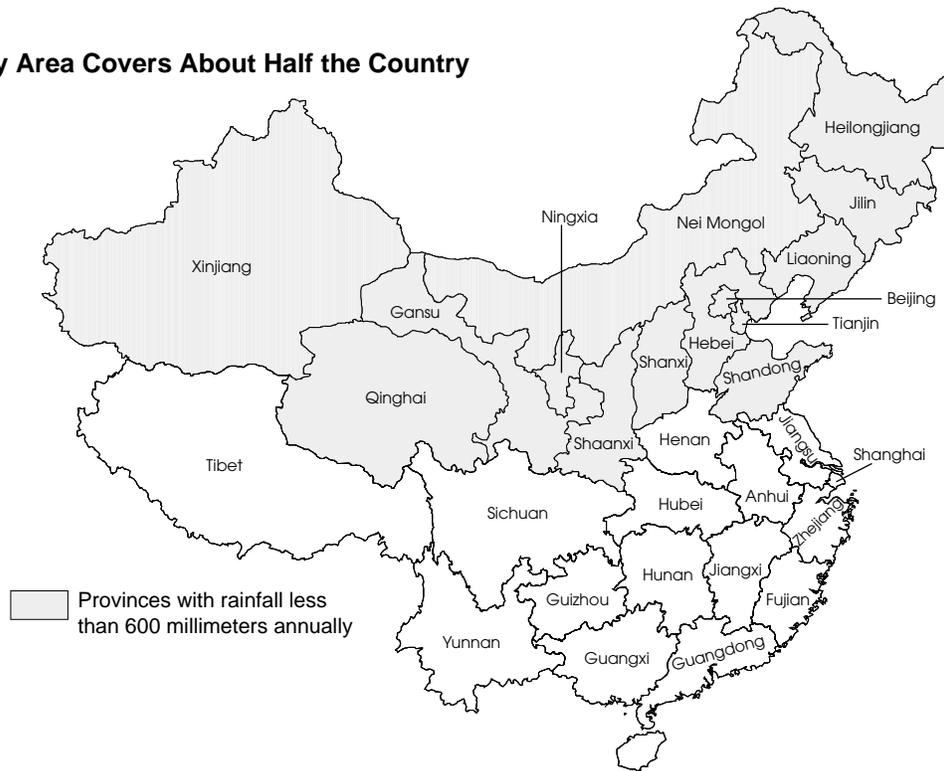
Rural residential demand for water was 25.6 billion cubic meters in 1980, 5.8 percent of total use. By 2000 this use is expected to rise to 51.7 billion cubic meters, 6.8 percent of use. According to the 1997 census of agriculture, only 17 percent of rural households had access to tapwater. China's government has embarked on a program to put in tapwater systems for rural villages. As this program progresses, more households will have access to regular supplies of tapwater, and consumption (for washing machines, showers, and nonirrigation farm use) will increase.

The dry region is host to large urban centers, including seven cities with populations of more than 2 million...

China's leaders state that urban and industrial water users will have priority over agricultural water use and that the proportion of water for *irrigation purposes* will decrease incrementally in the next few decades. Nevertheless, current food security policies are inducing farmers to expand and to maintain a high level of food grain (wheat, rice, and corn) production (AO March 1997). These pressures have pushed farmers to use both surface and underground water resources to boost grain yields. World Bank analysts estimated irrigation water use in 1980 at 365.6 billion cubic meters, 82.4 percent of total water use. But they anticipate that even though use of irrigation water will increase to 506.4 billion cubic meters in 2000, competition for other uses will reduce the share of water for irrigation to 66.2 percent of the total. In some areas of dry north China, water tables have dropped substantially, suggesting that water is being extracted (mostly for agriculture) faster than aquifers can be recharged.

In China's dry northwest area, upstream users have increased use of irrigation water. This use has raised grain output (largely one-season grain crops) in the upland areas, and new irrigation projects are being constructed in part to boost rural income in these largely poor areas. But the resulting loss of water for

China's Dry Area Covers About Half the Country



China's Stream Runoff for Water Supply Varies By Water Basin

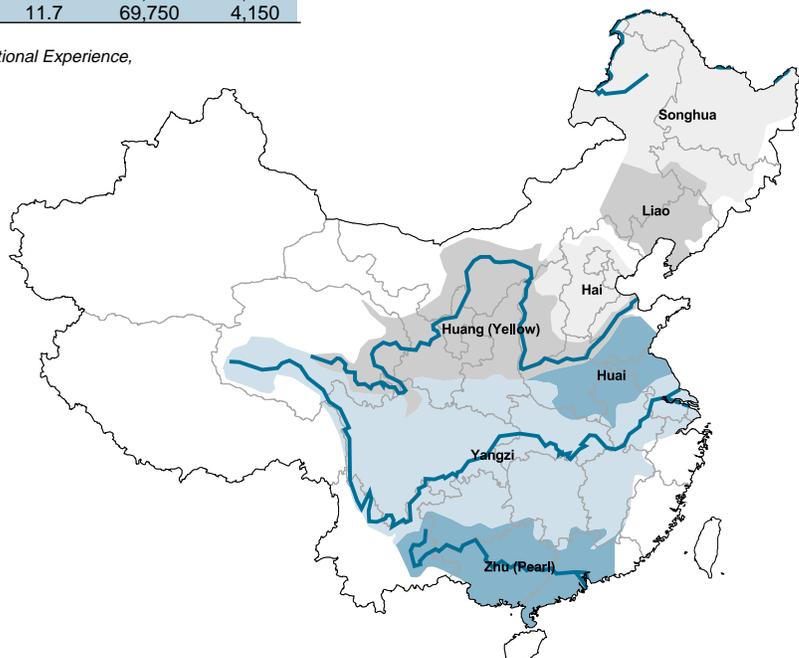
Major river basin	Area 1,000 sq km	Population Million	Cultivated land Mil. ha	Annual stream runoff			
				Total volume Cu km	Share of nat'l total Percent	Per cultivated ha Cu meters	Per capita Cu meters
Dry region:							
Hai	319	92	11.3	28	1.0	2,505	308
Songhua	528	46	11.7	76	2.9	6,450	1,650
Liao	232	28	4.5	15	0.5	3,375	540
Huang (Yellow)	752	82	13.1	56	2.1	4,290	683
Wet region:							
Huai	262	125	12.5	53	2.0	4,230	424
Yangzi	1,807	346	24	1,000	38.2	41,700	2,890
Zhu (Pearl)	415	74	4.4	307	11.7	69,750	4,150

1 hectare (ha) = 2.471 acres.

Source: *Long Distance Water Transfer: A Chinese Case Study and International Experience*, United Nations University, 1983.

Economic Research Service, USDA

China's Major River Basins



Special Article

downstream areas means, for example, that the Yellow River often now goes dry well before it reaches the sea.

Downstream users in the dry northern area have not only lost surface water to irrigate their two grain crops a year, but the decreased stream flow may well affect the recharge of some aquifers. With less surface water available downstream, municipalities, industry, and agriculture have increased their use of underground water resources. In a number of areas in dry north China, including Beijing, underground water is being depleted so quickly that there are large areas with cones of depressions (water table drops at well locations), dry wells, seawater intrusions in groundwater areas adjacent to the ocean, and land subsidence. The problem is severe in the Cangzhou area of Hebei province, for example, where 400-meter deep wells are now being used to provide irrigation water to grow wheat and corn.

The rapid rise in urban population areas and industrial growth rates has been accompanied by a rise in the pollution level in China's waterways. In the absence of sufficient water treatment plants, large volumes of raw sewage are dumped daily into local streambeds, and industrial water is often untreated. When polluted upstream water is returned to the stream flow, water quality downstream is degraded. In some cases, polluted water in the streams has seeped into ground water.

Managing the Gap Between Water Demand & Availability

Assuming the extension of current trends in water demand and availability well into the next century, the projected deficit would be huge, and several crisis scenarios could be envisioned. On the other hand, water users could conceivably adjust consumption patterns as the gap widens between demand and availability and water use becomes more costly (i.e., higher prices for water as more energy is required to extract ground water). Policymakers might also assess the situation and respond with appropriate programs. This perspective suggests significant shifts in water use but not necessarily catastrophic crises.

A team of U.S. experts recently visited China and saw evidence of both perspectives. The team concluded that while some areas continue to use water at unsustainable rates, the dominant current trend is for both policy makers and farmers to begin adjusting to conditions of less water available for agriculture.

China has the opportunity to increase its available water supplies through careful management. Water used upstream could be returned to river flows to be used again downstream if water polluted through urban and industrial use is treated appropriately first. Initiatives to encourage more efficient use of existing water supplies are already underway in some areas. The difficulties will be for national and local governments to craft policies and rules within China's complex cultural and legal-administrative system that provide incentives for users to increase efficiency of water use, and for polluters to clean up the water they use and return clean water to stream flows.

With water policies giving highest priority to urban and industrial users, China's water districts, agricultural extension personnel, and government authorities acknowledge these water use expectations and are currently promoting both technical and institutional changes to increase irrigation efficiency.

To increase efficiency, local authorities and farmers are promoting lining ditches with concrete and use of plastic pipe to reduce conveyance losses from water source points to fields. Farmers are beginning to use spray and drip irrigation systems where conditions permit, instead of less efficient flood irrigation. Research units in government ministries have projects to develop efficient irrigation systems which will fit into the structure of rural China where fields are very small, farmers are relatively poor, and individual farms lack ready access to bank loans.

China has the opportunity to increase its available water supplies through careful management.

Authorities also encourage managers of irrigation districts to increase the efficient distribution and delivery of water to farmers. They are beginning to experiment with treating water as a commodity in which price becomes an important consideration. In the past 5 decades, irrigation districts have charged little or no fee for delivering water to farm fields. But irrigation districts are beginning to increase fees to cover operating expenses and plan to eventually charge full costs. Farmers have resisted paying fees for irrigation water, partly because they helped build the projects with their own unpaid labor.

The rising cost of pumping water is encouraging more efficient water use. Local government technicians are beginning to teach farmers how to efficiently use their irrigation water so that farmers will know when to apply water, how often, and how much. In the very dry areas of northwest China, farmers (with little or no assistance from the government) are developing rain catchment systems that drain water into underground cisterns. Water in the cisterns is used for domestic needs and for very efficient drip irrigation systems that deliver water to crops in small fields.

In 1999, China's Ministry of Agriculture initiated a "Dryland Farming Program" in response to the country's water scarcity and to expected decreasing available water supplies in the coming decades. The program includes a) creating seed varieties with high yields and low water use (with great hopes pinned on biotech techniques), b) developing field cultivation practices that will conserve water, and c) constructing field terraces to reduce water runoff and control erosion. Through this program, the government also pays for some equipment purchases to encourage adoption of new cultivation practices. Some farmers have reduced water losses by using plastic film between rows to limit evaporation. With the rising cost of water, farmers are beginning to switch from planting crops that have high water use to those which use less water.

The Ministry of Water Resources, which has responsibility for underground and surface water resources, is concerned about the increasing demand for water, falling water tables, increasing incidence of cones of depression, and land subsidence. The ministry has begun actively managing underground water supplies by developing rules and procedures for drilling new wells, requiring permits for extracting water from wells, and establishing measures to prevent pollution of underground aquifers. The Ministry also manages water commissions that allocate river water to provinces and oversees the building of flood control and hydro-electric facilities such as the enormous Three Gorges Dam on the Yangzi River. With China's rapidly changing economy and overlapping jurisdictions of various institutions interested in water, it will be challenging to formulate rules that will give stakeholders incentives (or penalties) for ensuring the long-term life of its aquifers.

Given water shortages in dry northern China, is it feasible to transfer water from the water-rich south to the north? Transfer projects have been discussed for more than two decades, but construction costs are high and thus far no projects have been initiated. The Ministry of Water Conservancy, charged with responsibility for projects to transfer water from south to north, has teams of researchers completing feasibility studies for an eastern route, a middle route and a western route. The ministry seems to be favoring the middle route. But little of the proposed transferred water is expected to be used for irrigation purposes. The unit cost of transferred water likely will be so high that only urban and industrial users could bear the costs.

Implications for Trade

Changes in China's water availability in the coming decade will force important changes in the country's agricultural economy. Clearly there will be less water available for irrigation purposes, and it is difficult to predict how China's farmers will adjust to the changing conditions. China's rural economy will not collapse, nor will crop production cease because of dwindling water supplies. Nonetheless, there could be substantial changes in the mix of crops planted due to changes in demand and availability of water supplies.

Farmers may switch from using scarce irrigation water on lower value grain crops to raise higher value fruit and vegetable crops instead. More dryland crops such as sorghum, millet, and cotton may be planted, rather than crops such as corn and rice which require higher water use. There could be less double cropping in China's dry northern areas. For example, farmers in the Beijing area currently raise winter wheat and summer corn in the same year. With reduced water supplies, they may have to choose between these crops.

The prospective changes in output composition will affect the kinds and quantities of agricultural products traded in the coming decades. As production of fruits and vegetables increases, some of China's products may become very competitive in international markets, while opportunities in China's market will likely develop for U.S. exports such as wheat, corn, and soybeans.

China's economy is expected to grow at an annual rate of over 7 percent during the next decade. This rapid economic growth, along with continued increases in population, will put considerable stress on China's natural resource base. Sustainable growth in the next few decades depends in part on how China crafts policies relating to land and water use. It will also depend on whether China will continue its food grain self sufficiency policies or increasingly rely on its comparative advantage and participate in world trade on a much larger scale. **AO**

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February Releases—USDA's Agricultural Statistics Board

The following reports are issued electronically at 3 p.m. (ET) unless otherwise indicated.

February

- 2 *Broiler Hatchery*
- 3 *Catfish Production*
Dairy Products
Egg Products
Trout Production
- 4 *Dairy Products Prices (8:30 am)*
Poultry Slaughter
- 9 *Broiler Hatchery*
- 11 *Cotton Ginnings (8:30 am)*
Crop Production (8:30 am)
Dairy Products Prices (8:30 am)
Crop Values
- 14 *Potato Stocks*
Turkey Hatchery
- 16 *Broiler Hatchery*
Milk Production
- 18 *Dairy Products Prices (8:30 am)*
U.S. & Canadian Cattle (8:30 am)
Cattle on Feed
Cold Storage
Cold Storage—Ann.
Farm Labor
Farms & Land in Farms
- 22 *Chickens & Eggs*
- 23 *Broiler Hatchery*
- 24 *Catfish Processing*
- 25 *Dairy Products Prices (8:30 am)*
Livestock Slaughter
- 28 *Honey*
Peanut Stocks & Processing
- 29 *Agricultural Prices*

Thursday, February 24

GENERAL SESSIONS

Opening Plenary

Dan Glickman, Secretary of Agriculture

Guest speakers to be announced

9:30 a.m.

Farm and Trade Prospects for 2000

Keith Collins, USDA Chief Economist

Gus Schumacher, USDA Under Secretary

10:30 a.m.

Panel: The Future of Bio-Engineered Farm Products

Addressing the controversies over safety, acceptance, and trade

12 noon

Panel: Farming in the New Millennium

Crop and livestock producers discuss changes and challenges

1:00 p.m.

Food Price Briefing

AFTERNOON BREAKOUT SESSIONS

2:15 p.m. concurrent sessions

Farm Income and Finance Outlook

Outlook by farm type and region; financial impacts of structural changes; rural credit markets

Long-Term Commodity Prospects

The latest long-term projections from USDA and private forecasters

Pros and Cons of Production and Marketing Contracts

What farmers expect, the lessons learned, and future trends

Rural America in the New Millennium

The current situation in rural America and the implications for public policy

4:00 p.m. concurrent sessions

Outlook for WTO Negotiations

Post-Seattle outlook and U.S. goals for the new World Trade Organization round

Biotechnology Issues for U.S. Agriculture

The latest on the approval process for bioengineered crop varieties; the concerns of agronomists, growers, and grain handlers

Farming Strategies for Weathering Tough Times

Methods that prove effective in boosting farmers' returns

Concentration and Structural Change in Agriculture

Evolving organization of farms and agribusiness; antitrust issues; policy response

FORUM DINNER - 6:30 p.m.

With featured speaker; preceded by cash bar at 5:30 p.m.

Friday, February 25

MORNING BREAKOUT SESSIONS

8:00 a.m. concurrent sessions

Outlook Sessions: Grains and Oilseeds; Cotton and Fibers; Dairy

The Trade Potential of Sub-Saharan Africa

U.S. Market and investment initiatives; regional views of market development and private investment

Outlook for Labor-Intensive Agriculture

Labor developments affecting farm workers and employers, rural communities, and meat packers

10:00 a.m. concurrent sessions

Outlook Sessions: Livestock and Poultry; Sugar and Sweeteners

New Markets for Bio-Based Energy and Industrial Feedstocks

Demand prospects for bio-based feedstocks for fuel, electricity, and industry

Marketing Information in the Internet Age

How will the Internet change produce price discovery and markets? How does the Agricultural Marketing Service fit in?

The Global Food Market in the 21st Century

Consolidation trends in the U.S. food export industry; international perspective on global food processing, distribution, and retailing

NOON LUNCHEONS

Grains and Oilseeds; Livestock and Poultry; Cotton; Sweeteners; Fruit and Vegetables

Preceded by cash bar, 11:30 a.m.; featured speaker at each luncheon

AFTERNOON BREAKOUT SESSIONS

1:45 p.m. concurrent sessions

Potential Impact of E-Commerce

How electronic commerce could alter the business landscape for agriculture, the farm community, and consumers

Balancing Livestock Production with Environmental Quality

Outlook for Federal, state, and local environmental initiatives regarding nutrient management practices of livestock operations

The Changing Market for Organic Foods

What consumers want; changes in organic retailing; venture capital considerations

Animal and Plant Health Issues in Farm Trade

The impact on U.S. exports and on international trade; case studies of opening markets; setting science-based standards for trade

U.S. and International Tobacco Outlook

Trade prospects; follow-up on the tobacco settlement; alternative marketing proposals

For details on attending the Forum or obtaining speeches afterward:

www.usda.gov/oce ● (202) 720-3050 ● agforum@oce.usda.gov

Statistical Indicators

Summary Data

Table 1—Key Statistical Indicators of the Food & Fiber Sector

	1998			1999				2000		
	1998	1999 F	2000 F	IV	I	II	III F	IV F	I F	II F
Prices received by farmers (1990-92=100)	101	--	--	99	96	98	97	--	--	--
Livestock & products	97	--	--	97	95	93	96	--	--	--
Crops	106	--	--	100	98	103	97	--	--	--
Prices paid by farmers (1990-92=100)										
Production items	113	--	--	110	110	111	111	--	--	--
Commodities and services, interest, taxes, and wage rates (PPITW)	115	--	--	114	115	115	116	--	--	--
Cash receipts (\$ bil.) ¹	197	192	190	59	47	42	47	57	45	42
Livestock	95	97	97	25	24	23	25	25	23	23
Crops	102	95	93	35	23	19	21	32	22	19
Market basket (1982-84=100)										
Retail cost	163	--	--	165	167	167	--	--	--	--
Farm value	103	--	--	104	101	97	--	--	--	--
Spread	195	--	--	198	203	204	--	--	--	--
Farm value/retail cost (%)	22	--	--	22	21	21	--	--	--	--
Retail prices (1982-84=100)										
All food	161	164	167	162	164	164	164	165	167	167
At home	161	164	167	163	164	164	164	165	166	167
Away from home	161	165	169	163	164	165	166	166	168	168
Agricultural exports (\$ bil.) ²	53.6	49.0	49.0	14.4	11.8	11.3	11.6	13.6	12.8	11.5
Agricultural imports (\$ bil.) ²	37.0	37.4	38.0	9.2	9.6	9.9	8.8	8.9	9.4	9.5
Commercial production										
Red meat (mil. lb.)	45,134	46,117	43,824	11,702	11,384	11,368	11,627	11,738	11,114	10,903
Poultry (mil. lb.)	33,667	35,556	37,115	8,580	8,638	9,072	8,986	8,860	9,065	9,400
Eggs (mil. doz.)	6,659	6,892	7,030	1,712	1,691	1,702	1,728	1,770	1,735	1,735
Milk (bil. lb.)	157.4	162.1	164.8	38.9	40.5	42.0	39.8	39.9	41.6	42.6
Consumption, per capita										
Red meat and poultry (lb.)	213.7	221.1	218.2	56.4	54.1	55.0	55.7	56.3	54.2	54.7
Corn beginning stocks (mil. bu.) ³	883.2	1,307.8	1,796.4	3,039.8	1,307.8	8,051.9	5,698.4	3,616.2	1,796.4	--
Corn use (mil. bu.) ³	8,791.0	9,291.3	9,355.0	1,734.0	3,021.0	2,359.2	2,089.4	1,821.7	--	--
Prices ⁴										
Choice steers--Neb. Direct (\$/cwt)	61.48	65.52	67-72	61.06	62.43	65.04	65.12	69-70	67-71	66-72
Barrows and gilts--IA, So. MN (\$/cwt)	34.72	33.55	37-40	22.06	28.83	35.18	35.70	34-35	34-36	36-40
Broilers--12-city (cents/lb.)	63.10	58.10	54-58	64.50	58.10	58.60	58.10	57-58	53-55	54-58
Eggs--NY gr. A large (cents/doz.)	75.80	65.70	58-62	81.70	75.00	58.10	66.20	63-64	58-62	53-57
Milk--all at plant (\$/cwt)	15.42	14.25-	12.35-	17.83	15.97	12.87	14.83	13.50-	11.50-	11.60-
		14.35	13.15					13.70	12.00	12.40
Wheat--KC HRW ordinary (\$/bu.)	3.29	3.08	--	3.34	3.16	2.92	2.82	--	--	--
Corn--Chicago (\$/bu.)	2.34	2.06	--	2.11	2.16	2.13	1.83	--	--	--
Soybeans--Chicago (\$/bu.)	6.01	--	--	5.44	4.95	4.58	4.40	--	--	--
Cotton--avg. spot 41-34 (cents/lb)	67.02	--	--	64.15	56.61	55.43	49.11	--	--	--
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Farm real estate values ⁵										
Nominal (\$ per acre)	683	703	713	740	798	844	887	926	974	992
Real (1982 \$)	528	521	507	514	540	558	572	586	604	609
U.S. civilian employment (mil.) ⁶	125.8	126.3	128.1	129.2	131.1	132.3	133.9	136.3	--	--
Food and fiber (mil.)	24.9	24.4	23.7	24.0	24.5	24.8	24.7	24.3	--	--
Farm sector (mil.)	2.0	2.0	1.9	1.8	1.9	1.9	1.9	1.8	--	--
U.S. gross domestic product (\$ bil.)	5,743.8	5,916.7	6,244.4	6,558.1	6,947.0	7,269.6	7,661.6	8,110.9	--	--
Food and fiber--net value added (\$ bil.)	891.7	903.2	937.3	956.7	1,006.1	1,025.8	1,055.8	1,078.1	--	--
Farm sector--net value added (\$ bil.) ⁷	60.6	56.5	61.7	52.8	57.0	53.9	66.1	60.6	--	--

F = Forecast. -- = Not available. 1. Quarterly data for 1999 are forecast. 2. Annual data based on Oct.-Sept. fiscal years ending with year indicated.

3. Sept.-Nov. first quarter; Dec.-Feb. second quarter; Mar.-May third quarter; Jun.-Aug. fourth quarter; Sept.-Aug. annual. Use includes exports and domestic disappearance. 4. Simple averages, Jan.-Dec. 5. As of January 1. 6. Civilian labor force taken from "Monthly Labor Review,"

Table 18--Annual Data: Employment Status of the Population, Bureau of Labor Statistics, U.S. Department of Labor. 7. The value-added data presented here is consistent with accounting conventions of the National Income and Product Accounts, U.S. Department of Commerce.

U.S. & Foreign Economic Data

Table 2—U.S. Gross Domestic Product & Related Data

	1998				1999					
	1996	1997	1998	I	II	III	IV	I	II	III
<i>Billions of current dollars (quarterly data seasonally adjusted at annual rates)</i>										
Gross Domestic Product	7,813.2	8,300.8	8,759.9	8,610.6	8,683.7	8,797.9	8,947.6	9,072.7	9,146.2	9,276.3
Gross National Product	7,831.2	8,305.0	8,750.0	8,613.7	8,683.7	8,772.2	8,930.5	9,058.2	9,131.9	9,262.0
Personal consumption expenditures	5,237.5	5,524.4	5,848.6	5,714.7	5,816.2	5,889.6	5,973.7	6,090.8	6,200.8	6,296.0
Durable goods	616.5	642.9	698.2	679.2	693.9	696.9	722.8	739.0	751.6	760.7
Nondurable goods	1,574.1	1,641.7	1,708.9	1,674.6	1,701.2	1,716.6	1,742.9	1,787.8	1,824.8	1,854.0
Food	786.0	817.0	853.4	832.9	847.6	857.6	875.6	885.4	893.4	902.8
Clothing and shoes	258.6	271.2	286.3	282.5	287.1	286.6	289.2	301.8	306.7	308.4
Services	3,047.0	3,239.8	3,441.5	3,360.9	3,421.1	3,476.1	3,508.0	3,564.0	3,624.3	3,681.3
Gross private domestic investment	1,242.7	1,383.7	1,531.2	1,514.3	1,495.0	1,535.3	1,580.3	1,594.3	1,585.4	1,631.1
Fixed investment	1,212.7	1,315.4	1,460.0	1,415.4	1,454.2	1,461.7	1,508.9	1,543.3	1,567.8	1,600.0
Change in private inventories	30.0	68.3	71.2	98.9	40.8	73.7	71.4	51.0	17.6	31.1
Net exports of goods and services	-89.0	-88.3	-149.6	-117.4	-153.9	-165.7	-161.2	-201.6	-245.8	-282.0
Government consumption expenditures and gross investment	1,421.9	1,481.0	1,529.7	1,499.0	1,526.5	1,538.7	1,554.8	1,589.1	1,605.9	1,631.2
<i>Billions of 1996 dollars (quarterly data seasonally adjusted at annual rates)¹</i>										
Gross Domestic Product	7,813.2	8,165.1	8,516.3	8,412.7	8,457.2	8,536.0	8,659.2	8,737.9	8,778.6	8,882.6
Gross National Product	7,831.2	8,168.8	8,506.0	8,414.8	8,456.6	8,510.6	8,641.9	8,723.3	8,764.3	8,868.4
Personal consumption expenditures	5,237.5	5,433.7	5,698.6	5,592.3	5,675.6	5,730.7	5,795.8	5,888.4	5,961.8	6,025.1
Durable goods	616.5	657.4	731.5	704.9	723.9	731.2	766.0	788.8	806.1	819.9
Nondurable goods	1,574.1	1,619.9	1,685.3	1,654.9	1,681.9	1,692.0	1,712.6	1,749.5	1,763.7	1,779.3
Food	786.0	799.1	820.6	805.7	818.2	823.0	835.4	839.5	844.6	849.0
Clothing and shoes	258.6	271.1	292.2	287.8	293.1	292.2	295.6	314.7	316.8	322.0
Services	3,047.0	3,156.7	3,284.5	3,234.2	3,272.2	3,309.6	3,322.0	3,356.5	3,399.2	3,433.7
Gross private domestic investment	1,242.7	1,385.8	1,547.4	1,531.5	1,513.1	1,551.1	1,593.9	1,608.2	1,599.8	1,650.5
Fixed investment	1,212.7	1,316.0	1,471.8	1,424.2	1,466.7	1,474.0	1,522.5	1,555.9	1,581.0	1,615.4
Change in private inventories	30.0	69.1	74.3	107.3	43.1	76.1	70.7	50.1	14.0	28.1
Net exports of goods and services	-89.0	-109.8	-215.1	-171.7	-218.4	-237.9	-232.3	-284.5	-319.0	-343.0
Government consumption expenditures and gross investment	1,421.9	1,455.1	1,480.3	1,459.2	1,480.7	1,485.3	1,495.9	1,514.6	1,519.5	1,532.0
GDP implicit price deflator (% change)	1.8	1.7	1.2	0.9	1.3	1.5	1.0	2.0	1.4	0.9
Disposable personal income (\$ bil.)	5,677.7	5,982.8	6,286.2	6,163.5	6,238.3	6,325.3	6,417.8	6,505.4	6,593.2	6,665.9
Disposable pers. income (1992 \$ bil.)	5,677.7	5,884.7	6,125.1	6,031.5	6,087.5	6,154.6	6,226.6	6,289.3	6,339.1	6,379.1
Per capita disposable pers. income (\$)	21,385	22,320	23,231	22,863	23,086	23,345	23,628	23,904	24,171	24,371
Per capita disp. pers. income (1992 \$)	21,385	21,954	22,636	22,373	22,528	22,715	22,924	23,110	23,239	23,322
U.S. resident population plus Armed Forces overseas (mil.) ²	265.5	268.0	270.6	269.5	270.1	270.8	271.5	272.0	272.7	273.4
Civilian population (mil.) ²	263.9	266.5	269.1	268.0	268.6	269.3	270.1	270.6	271.2	271.9
<i>Monthly data seasonally adjusted</i>										
	1996	1997	1998	1998	1999					
				Sep	Apr	May	Jun	Jul	Aug	Sep
Total industrial production (1992=100)	121.4	129.7	135.1	135.2	138.0	138.4	138.4	139.1	139.7	139.5
Leading economic indicators (1992=100)	102.1	103.9	105.5	105.6	107.1	107.4	107.7	108.0	108.0	107.9
Civilian employment (mil. persons) ³	126.7	129.6	131.5	131.8	133.1	133.2	133.4	133.3	133.4	133.6
Civilian unemployment rate (%) ³	5.4	4.9	4.5	4.5	4.3	4.2	4.3	4.3	4.2	4.2
Personal income (\$ bil. annual rate)	6,547.4	6,951.1	7,358.9	7,441.3	7,692.7	7,721.8	7,783.3	7,806.2	7,834.5	7,837.1
Money stock-M2 (daily avg.) (\$ bil.) ⁴	3,823.9	4,046.4	4,401.0	4,284.2	4,488.2	4,505.2	4,520.9	4,541.1	4,562.0	4,580.2
Three-month Treasury bill rate (%)	5.02	5.07	4.81	4.74	4.28	4.51	4.59	4.60	4.76	4.73
AAA corporate bond yield (Moody's) (%)	7.37	7.26	6.53	6.40	6.64	6.93	7.23	7.19	7.40	7.39
Total housing starts (1,000) ⁵	1,476.8	1,474.0	1,616.9	1,576	1,577	1,668	1,607	1,680	1,672	1,618
Business inventory/sales ratio ⁶	1.41	1.38	1.39	1.39	1.36	1.35	1.34	1.34	1.32	--
Sales of all retail stores (\$ bil.) ⁷	2,465.1	2,546.3	2,696.5	229.5	240.2	247.2	247.0	249.5	252.8	252.5
Nondurable goods stores (\$ bil.)	1,457.8	1,505.4	1,563.8	134.7	138.7	143.3	143.9	144.6	146.0	147.0
Food stores (\$ bil.)	424.2	432.1	443.0	36.7	38.3	38.3	38.2	38.3	38.5	38.7
Apparel and accessory stores (\$ bil.)	113.0	116.8	124.2	10.4	11.1	11.5	11.4	11.3	11.4	11.3
Eating and drinking places (\$ bil.)	238.4	244.1	247.1	22.4	21.8	23.6	23.7	23.8	23.7	23.8

-- Not available. 1. In October 1999, 1996 dollars replaced 1992 dollars. 2. Population estimates based on 1990 census. 3. Data beginning January 1994 are not directly comparable with data for earlier periods because of a major redesign of the household survey questionnaire. 4. Annual data as of December of year listed. 5. Private, including farm. 6. Manufacturing and trade. 7. Annual total. *Information contact: David Johnson (202) 694-5324*

Table 3—World Economic Growth

	Calendar year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	<i>Real GDP, annual percent change</i>									
World	2.1	2.0	1.3	3.0	2.7	3.5	3.1	1.9	2.5	2.9
less U.S.	2.8	1.6	1.0	2.7	2.7	3.5	2.7	1.1	2.1	3.0
Developed economies	2.4	1.7	0.8	2.7	2.2	3.1	2.9	1.9	2.5	2.5
less U.S.	3.5	1.1	0.1	2.1	2.0	2.9	2.2	0.8	1.8	2.4
United States	0.0	3.1	2.4	4.0	2.7	3.7	4.5	4.3	3.8	2.7
Canada	-1.9	0.9	2.3	4.7	2.8	1.7	3.9	3.1	3.6	3.0
Japan	3.8	1.0	0.3	0.7	1.4	5.2	1.4	-2.9	1.1	1.2
Australia	-1.1	2.4	3.8	5.2	3.8	4.4	4.1	4.8	4.1	3.4
European Union	4.0	1.1	-0.4	2.7	2.3	1.5	2.4	2.7	2.0	3.0
Transition economies	-11.4	-6.9	-8.6	-1.7	-0.7	-1.0	1.4	-1.3	1.7	2.6
Eastern Europe	-9.9	9.6	-5.7	12.0	3.4	1.5	2.2	0.3	1.6	3.6
Poland	-7.0	2.6	3.8	5.2	7.0	6.1	6.9	4.8	2.8	5.8
Former Soviet Union	-12.4	-18.0	-11.2	-14.9	-5.9	-4.6	0.1	-3.7	1.8	1.0
Russia	-5.0	-14.5	-8.7	-12.6	-4.1	-3.5	0.8	-4.3	3.1	1.1
Developing economies	4.5	5.4	5.8	5.2	5.1	5.8	4.3	2.2	2.8	4.7
Asia	6.7	7.7	7.9	8.7	8.2	7.4	6.0	0.4	5.9	6.4
East Asia	8.5	9.3	9.1	9.6	8.7	7.7	7.0	2.2	6.9	7.0
China	9.3	14.2	13.5	12.6	10.5	9.6	8.8	7.8	7.4	8.0
Taiwan	7.5	6.8	6.3	6.6	6.0	5.7	6.7	4.7	5.5	5.4
Korea	9.2	5.4	5.5	8.3	8.9	6.8	5.0	-5.8	8.5	6.8
Southeast Asia	6.5	5.6	7.7	7.9	8.1	7.1	4.8	-6.1	3.6	5.8
Indonesia	8.9	7.2	7.3	7.5	8.2	7.8	4.9	-13.3	2.1	7.7
Malaysia	8.6	7.8	8.3	9.2	9.5	8.6	7.8	-7.4	3.7	6.0
Philippines	-0.6	0.3	2.1	4.4	4.7	5.8	5.2	-0.5	3.0	3.2
Thailand	8.6	8.1	8.4	8.9	8.8	5.5	-0.4	-9.9	3.7	6.2
South Asia	1.4	5.7	4.5	7.1	6.9	6.8	4.5	4.5	5.8	5.2
India	0.5	5.4	5.0	8.1	7.4	7.4	5.2	4.5	6.5	5.4
Pakistan	5.5	7.8	1.9	3.9	5.1	4.7	-0.4	3.7	3.0	4.0
Latin America	3.5	4.8	5.2	2.9	2.0	4.7	5.2	2.8	-0.7	2.9
Mexico	4.2	3.6	2.0	4.5	-6.2	5.1	6.8	4.8	3.0	3.8
Caribbean/Central	-1.2	16.0	10.5	-12.1	8.3	11.4	4.9	3.4	-0.9	2.5
South America	4.3	2.9	4.9	6.1	2.7	3.2	4.9	2.2	-1.5	2.7
Argentina	10.6	9.6	5.7	8.0	-4.0	4.8	8.6	4.0	-3.3	2.9
Brazil	1.3	-0.5	4.9	5.9	4.2	2.8	3.2	0.2	-0.1	3.0
Colombia	2.4	3.9	5.4	5.8	5.8	2.0	3.1	9.9	-3.2	2.0
Venezuela	9.7	6.1	0.3	-2.3	3.7	-0.5	5.1	-0.7	-7.1	1.6
Middle East	1.6	1.1	1.1	-1.3	2.0	1.9	-9.7	11.7	-2.3	1.3
Israel	7.7	5.6	5.6	6.9	7.0	4.6	2.2	1.9	1.5	2.6
Saudi Arabia	10.5	2.8	-0.6	0.5	0.5	1.4	1.9	1.4	-1.5	1.6
Turkey	0.9	6.4	8.7	-5.2	7.8	7.0	7.5	2.8	-4.1	5.3
Africa	1.0	0.3	1.2	1.7	2.9	4.5	2.9	3.4	3.2	4.7
North Africa	1.6	2.2	0.4	3.5	2.1	5.9	2.6	5.1	4.6	5.5
Egypt	1.1	4.4	2.9	3.9	4.6	5.0	5.0	5.0	6.0	5.4
Sub-Saharan	0.8	-0.8	1.7	0.7	3.4	3.8	3.1	2.4	2.5	4.2
South Africa	-1.0	-2.6	1.5	2.8	3.1	3.3	1.8	0.6	0.8	3.4
	<i>Consumer Prices, annual percent change</i>									
Developed Economies	4.7	3.5	3.1	2.6	2.6	2.4	2.1	1.5	1.4	1.8
Transition Economies	94.1	646.6	602.0	266.9	126.8	40.6	28.2	20.9	39.3	18.1
Developing Economies	43.2	32.8	47.3	51.8	22.1	14.6	9.2	10.3	6.7	5.8
Asia	8.3	7.6	10.7	15.9	12.8	8.2	4.8	8.0	3.1	3.5
Latin America	173.9	110.8	209.0	208.9	35.9	22.4	13.2	10.6	9.8	7.6
Middle East	28.0	25.1	25.3	31.4	35.6	24.2	23.1	23.6	18.3	13.1
Africa	24.6	32.5	30.6	37.3	33.2	25.9	11.1	8.7	9.0	6.9

-- = Not available. The last three years are either estimates or forecasts. Sources: Oxford Economic Forecasting; International Financial Statistics, IMF.

Information contact: Andy Jerardo (202) 694-5323

Farm Prices

Table 4—Indexes of Prices Received & Paid by Farmers, U.S. Average

	Annual		1998		1999					
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
	<i>1990-92=100</i>									
Prices received										
All farm products	112	107	101	99	98	95	98	97	91	93
All crops	127	116	106	101	100	95	99	95	88	89
Food grains	157	128	103	105	87	77	87	88	87	87
Feed grains and hay	146	117	100	86	91	84	85	81	76	77
Cotton	122	112	107	107	92	90	87	76	76	77
Tobacco	105	104	104	109	--	86	94	101	104	102
Oil-bearing crops	128	131	107	101	80	75	78	83	80	80
Fruit and nuts, all	118	109	110	113	130	133	138	131	131	117
Commercial vegetables	111	122	119	113	111	103	105	104	96	95
Potatoes and dry beans	114	90	99	89	111	121	107	90	85	91
Livestock and products	99	98	97	97	95	94	97	98	96	98
Meat animals	87	92	79	72	84	81	85	84	87	87
Dairy products	114	102	119	136	100	105	115	121	115	110
Poultry and eggs	120	113	117	124	113	113	110	110	102	114
Prices paid										
Commodities and services,										
interest, taxes, and wage rates (PPITW)	115	118	115	114	117	116	117	116	117	117
Production items	115	119	113	110	113	113	113	112	113	114
Feed	129	125	110	102	100	98	99	98	99	101
Livestock and poultry	75	94	88	86	93	92	91	94	101	105
Seeds	115	119	122	123	121	121	121	121	121	121
Fertilizer	125	121	112	108	105	104	103	104	105	107
Agricultural chemicals	119	121	122	122	120	119	123	124	124	125
Fuels	102	106	84	78	92	101	110	116	113	116
Supplies and repairs	115	118	119	120	121	121	121	121	121	121
Autos and trucks	118	119	119	119	119	119	118	118	119	119
Farm machinery	125	128	132	134	135	135	135	132	132	133
Building material	115	118	118	118	120	121	121	120	120	120
Farm services	116	116	115	114	118	117	117	116	116	116
Rent	128	136	120	120	130	130	130	117	117	117
Interest payable per acre on farm real estate deb	105	106	109	109	110	110	110	110	110	110
Taxes payable per acre on farm real estate	112	115	119	119	120	120	120	120	120	120
Wage rates (seasonally adjusted)	117	123	129	131	135	131	131	131	135	135
Prod. items, interest, taxes & wage rates (PITW)	115	118	114	112	115	115	115	114	115	116
Ratio, prices received to prices paid (%)*	98	90	88	87	84	82	84	84	78	79
Prices received (1910-14=100)	712	679	642	630	620	602	625	613	578	590
Prices paid, etc. (parity index) (1910-14=100)	1,531	1,575	1,534	1,518	1,552	1,546	1,551	1,541	1,553	1,562
Parity ratio (1910-14=100) (%)*	47	43	42	42	40	39	40	40	37	38

-- = Not available. Values for the two most recent months are revised or preliminary. *Ratio of index of prices received for all farm products to index of prices paid for commodities and services, interest, taxes, and wage rates. Ratio uses the most recent prices paid index. Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at <http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/>. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540, or access the NASS Home Page at <http://www.usda.gov/nass>.

Table 5—Prices Received by Farmers, U.S. Average

	Annual ¹			1998			1999			
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
Crops										
All wheat (\$/bu.)	4.30	3.38	2.70	2.95	2.50	2.23	2.52	2.57	2.58	2.54
Rice, rough (\$/cwt)	9.96	9.70	8.50	8.98	8.20	8.15	7.62	6.88	6.23	6.45
Corn (\$/bu.)	2.71	2.43	1.95	1.93	1.97	1.74	1.75	1.75	1.69	1.72
Sorghum (\$/cwt)	4.17	3.95	3.10	3.05	2.87	2.83	2.89	2.82	2.51	2.59
All hay, baled (\$/ton)	95.80	100.00	87.00	81.40	81.70	78.40	77.40	74.50	73.70	74.00
Soybeans (\$/bu.)	7.35	6.47	5.35	5.39	4.44	4.20	4.39	4.57	4.47	4.35
Cotton, upland (¢/lb.)	69.30	65.20	64.20	64.60	55.50	54.30	53.00	46.20	45.90	46.80
Potatoes (\$/cwt)	4.93	5.62	5.24	4.86	6.58	7.34	6.33	5.15	4.84	5.37
Lettuce (\$/cwt) ²	14.70	17.60	15.20	10.90	11.40	12.50	11.90	13.00	13.00	11.90
Tomatoes, fresh (\$/cwt) ²	28.10	31.70	35.00	43.60	33.70	25.40	22.70	26.90	21.40	24.80
Onions (\$/cwt)	10.50	12.60	13.80	14.00	17.60	17.10	15.40	12.30	8.92	7.87
Beans, dry edible (\$/cwt)	23.50	19.30	19.80	20.30	19.50	19.30	18.80	18.10	17.20	16.90
Apples for fresh use (¢/lb.)	20.80	22.10	17.10	17.50	12.70	12.40	18.40	23.20	23.50	23.30
Pears for fresh use (\$/ton)	376.00	276.00	291.00	352.00	356.00	469.00	341.00	388.00	441.00	461.00
Oranges, all uses (\$/box) ³	4.79	4.22	4.29	5.37	8.78	10.10	11.48	7.98	10.25	4.33
Grapefruit, all uses (\$/box) ³	2.30	1.91	1.41	3.55	8.78	10.67	7.45	8.18	6.80	5.21
Livestock										
Cattle, all beef (\$/cwt)	58.70	63.10	59.60	58.10	63.70	62.60	63.50	63.90	66.20	66.20
Calves (\$/cwt)	58.40	78.90	78.80	77.50	89.00	89.20	89.60	90.90	91.90	91.60
Hogs, all (\$/cwt)	51.90	52.90	34.40	18.80	34.20	31.20	36.20	33.70	34.00	32.90
Lambs (\$/cwt)	88.20	90.30	72.30	62.60	81.30	77.00	68.90	75.30	72.60	--
All milk, sold to plants (\$/cwt)	14.75	13.36	15.41	17.80	13.10	13.70	15.00	15.80	15.00	14.40
Milk, manuf. grade (\$/cwt)	13.43	12.17	14.33	17.30	11.90	13.20	15.20	15.20	12.60	11.30
Broilers, live (¢/lb.)	38.10	37.70	39.30	41.30	38.50	38.10	36.20	36.50	33.50	37.40
Eggs, all (¢/doz.) ⁴	74.90	70.30	65.50	72.80	55.30	57.30	59.00	56.70	50.10	64.30
Turkeys (¢/lb.)	43.30	39.90	38.00	43.80	41.50	41.80	43.10	44.50	45.40	45.60

-- = Not available. Values for the two most recent months are revised or preliminary. 1. Season-average price by crop year for crops. Calendar year average of monthly prices for livestock. 2. Excludes Hawaii. 3. Equivalent on-tree returns. 4. Average of all eggs sold by producers including hatching eggs and eggs sold at retail. Data for this table are taken from the publication *Agricultural Prices*, which is produced monthly by USDA's National Agricultural Statistics Service (NASS) and is available at <http://usda.mannlib.cornell.edu/reports/nassr/price/pap-bb/>. For historical data or for categories not listed here, call the National Agricultural Statistics Service (NASS) Information Hotline at 1-800-727-9540, or access the NASS Home Page at <http://www.usda.gov/nass>.

Producer & Consumer Prices

Table 6—Consumer Price Indexes for All Urban Consumers, U.S. Average (not seasonally adjusted)

	Annual		1998			1999				
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
	<i>1982-84=100</i>									
Consumer Price Index, all items	156.9	160.5	163.0	164.0	166.2	166.7	167.1	167.9	168.2	168.3
CPI, all items less food	157.5	161.1	163.6	164.3	166.7	167.2	167.7	168.5	168.8	168.8
All food	153.3	157.3	160.7	162.1	163.6	163.8	164.2	164.6	165.1	165.2
Food away from home	152.7	157.0	161.1	162.6	164.6	165.1	165.6	165.8	166.2	166.5
Food at home	154.3	158.1	161.1	162.5	163.7	163.7	164.1	164.5	165.1	165.1
Meats ¹	140.2	144.4	141.6	141.4	141.8	142.2	142.8	143.9	144.4	145.3
Beef and veal	134.5	136.8	136.5	137.0	139.4	138.9	138.8	140.3	141.6	142.2
Pork	148.2	155.9	148.5	146.2	145.4	146.9	147.6	149.7	148.1	149.3
Poultry	152.4	156.6	157.1	159.6	156.8	157.3	158.5	159.8	158.1	159.4
Fish and seafood	173.1	177.1	181.7	183.1	184.6	184.4	185.2	184.7	187.3	187.9
Eggs	142.1	140.0	135.4	139.4	125.1	119.5	130.8	128.2	119.8	128.8
Dairy and related products ²	142.1	145.5	150.8	155.9	156.1	155.7	156.5	158.7	164.1	164.6
Fats and oils ³	140.5	141.7	146.9	155.1	147.5	148.1	148.6	148.5	149.0	145.3
Fresh fruits	234.4	236.3	246.5	249.6	273.4	264.9	266.2	265.8	262.3	260.5
Fresh vegetables	189.2	194.6	215.8	214.9	203.1	206.0	204.8	208.0	208.9	209.1
Potatoes	180.6	174.2	185.2	176.7	194.7	205.0	212.1	204.6	194.8	186.1
Cereals and bakery products	174.0	177.6	181.1	182.1	185.7	186.3	184.9	185.2	185.2	184.8
Sugar and sweets	143.7	147.8	150.2	149.6	152.4	152.4	152.7	153.5	153.3	152.1
Nonalcoholic beverages ⁴	128.6	133.4	133.0	132.7	134.3	134.3	134.5	134.2	134.6	133.9
Apparel										
Footwear	126.6	127.6	128.0	130.4	125.4	125.2	123.8	124.7	126.1	126.4
Tobacco and smoking products	232.8	243.7	274.8	281.3	343.2	356.0	350.1	373.8	373.3	369.8
Alcoholic beverages	158.5	162.8	165.7	166.8	169.5	169.9	170.2	170.7	170.5	171.2

1. Beef, veal, lamb, pork, and processed meat. 2. Included butter through December '97. 3. Includes butter as of January 98. 4. Includes fruit juices as of January 1998. This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at <http://stats.bls.gov/blshome.html> and a Consumer Prices Information Hotline at (202) 606-7828.

Table 7—Producer Price Indexes, U.S. Average (not seasonally adjusted)

	Annual		1998			1999				
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
	<i>1982=100</i>									
All commodities	127.7	127.6	124.4	123.6	125.2	125.7	126.8	128.0	127.9	128.4
Finished goods ¹	131.3	131.8	130.6	130.9	132.7	132.9	133.7	134.8	135.0	135.0
All foods ²	132.5	132.8	132.4	133.3	132.3	131.5	132.7	134.4	132.9	132.3
Consumer foods	133.6	134.5	134.3	134.9	135.1	134.6	135.7	137.0	135.6	135.4
Fresh fruits and melons	100.8	99.4	90.0	87.4	104.5	101.8	96.7	105.4	107.2	93.0
Fresh and dry vegetables	135.0	123.1	139.5	124.5	127.7	117.3	111.1	120.4	108.1	108.8
Dried and dehydrated fruits	124.2	124.9	124.4	122.3	120.6	120.5	120.6	118.8	119.1	119.3
Canned fruits and juices	137.5	137.6	134.4	134.8	137.5	138.0	137.9	138.3	137.7	137.9
Frozen fruits, juices and ades	123.9	117.2	116.1	123.7	121.6	121.5	117.8	120.8	120.1	126.2
Fresh veg. except potatoes	120.9	121.3	137.9	131.2	125.8	103.4	113.7	117.5	100.0	100.9
Canned vegetables and juices	121.2	120.1	121.5	120.0	121.0	120.8	121.0	120.9	120.7	121.6
Frozen vegetables	125.4	125.8	125.4	125.5	126.0	136.8	126.1	126.1	126.4	126.1
Potatoes	133.9	106.1	122.5	120.7	146.8	164.3	151.3	116.4	108.8	110.8
Eggs for fresh use (1991=100)	105.1	97.1	90.1	100.2	70.1	75.2	82.7	75.7	61.5	85.8
Bakery products	169.8	173.9	175.8	176.4	177.6	178.0	177.8	178.0	178.4	178.8
Meats	109.0	111.6	101.4	97.2	106.5	104.3	108.2	109.7	108.4	105.8
Beef and veal	100.2	102.8	99.5	99.7	108.4	107.1	108.6	110.0	112.0	108.5
Pork	120.9	123.1	96.6	84.0	98.0	93.1	104.1	107.4	99.3	95.8
Processed poultry	119.8	117.4	120.7	123.4	115.6	114.5	114.5	115.2	111.7	115.1
Unprocessed and packaged fish	165.9	178.1	183.0	186.3	186.9	188.6	188.4	193.4	195.9	197.7
Dairy products	130.4	128.1	138.1	148.5	135.3	136.4	139.9	143.9	144.1	142.5
Processed fruits and vegetables	127.6	126.4	125.8	126.3	127.8	128.0	127.2	127.5	127.3	128.5
Shortening and cooking oil	138.5	137.8	143.4	151.5	--	--	--	--	--	--
Soft drinks	134.0	133.2	134.8	134.9	136.9	137.9	138.1	138.1	138.7	139.3
Finished consumer goods less foods	127.6	128.2	126.4	126.4	130.0	130.8	131.8	133.4	133.7	133.9
Alcoholic beverages	132.8	135.1	135.2	136.3	136.1	137.5	137.1	137.5	137.7	137.8
Apparel	125.1	125.7	126.6	126.9	127.0	126.9	125.9	126.1	126.3	126.5
Footwear	141.6	143.7	144.7	144.7	144.5	144.6	144.5	144.6	144.7	144.7
Tobacco products	237.4	248.9	283.4	288.8	363.6	363.5	363.8	394.5	394.5	394.8
Intermediate materials ³	125.8	125.6	123.0	121.8	123.0	123.9	124.7	125.2	125.2	125.4
Materials for food manufacturing	125.3	123.2	123.1	125.5	120.0	119.0	121.1	122.5	122.4	121.4
Flour	136.8	118.7	109.2	110.4	105.2	103.1	105.9	103.9	102.3	103.9
Refined sugar ⁴	123.7	123.6	119.8	120.3	122.6	122.4	122.5	121.8	121.1	120.2
Crude vegetable oils	118.1	116.6	131.1	130.9	85.5	78.3	85.1	85.4	81.7	81.4
Crude materials ⁵	113.8	111.1	96.7	93.6	97.4	97.9	102.1	106.9	104.9	108.6
Foodstuffs and feedstuffs	121.5	112.2	103.8	102.4	99.5	96.2	100.1	100.5	99.6	99.5
Fruits and vegetables and nuts ⁶	122.5	115.5	117.2	110.8	122.4	116.7	111.2	120.0	115.2	104.8
Grains	151.1	111.2	93.4	88.5	82.2	71.7	80.9	75.9	72.7	77.3
Slaughter livestock	95.2	96.3	82.3	74.9	88.6	85.0	88.6	86.7	90.9	89.6
Slaughter poultry, live	140.5	131.0	141.4	151.4	135.6	137.6	126.3	132.6	122.7	137.7
Plant and animal fibers	129.4	117.0	110.4	110.9	89.6	79.4	82.7	80.0	80.8	79.4
Fluid milk	107.9	97.5	112.6	130.5	97.3	103.4	111.7	118.4	114.6	104.5
Oilseeds	139.4	140.8	114.4	108.8	91.5	82.2	91.5	92.4	88.4	87.4
Leaf tobacco	89.4	--	104.6	112.0	--	88.2	96.7	105.5	109.6	104.1
Raw cane sugar	118.6	116.8	117.2	116.4	119.4	120.5	115.2	114.0	109.6	99.8

-- = Not available. 1. Commodities ready for sale to ultimate consumer. 2. Includes all raw, intermediate, and processed foods (excludes soft drinks, alcoholic beverages, and manufactured animal feeds). 3. Commodities requiring further processing to become finished goods. 4. All types and sizes of refined sugar. 5. Products entering market for the first time that have not been manufactured at that point. 6. Fresh and dried.

This table is compiled with data provided by the Bureau of Labor Statistics (BLS). BLS operates a website at <http://stats.bls.gov/blshome.html> and a Producer Prices Information Hotline at (202) 606-7705.

Farm-Retail Price Spreads

Table 8—Farm-Retail Price Spreads

	Annual		1998			1999				
	1996	1997	1998	Sep	Apr	May	Jun	Jul	Aug	Sep
Market basket¹										
Retail cost (1982-84=100)	155.9	159.7	163.1	163.2	166.4	167.1	166.7	166.6	167.1	167.7
Farm value (1982-84=100)	111.1	106.2	103.3	104.9	96.2	97.2	98.6	96.9	98.7	100.3
Farm-retail spread (1982-84=100)	180.1	188.6	195.4	194.7	204.3	204.8	203.5	204.1	203.9	204.1
Farm value-retail cost (%)	24.9	23.3	22.2	22.5	20.2	20.4	20.7	20.4	20.7	20.9
Meat products										
Retail cost (1982-84=100)	140.1	144.4	141.6	141.6	140.5	141.4	141.8	142.2	142.8	143.9
Farm value (1982-84=100)	100.4	101.2	84.8	81.3	83.8	82.2	82.4	82.9	83.8	84.7
Farm-retail spread (1982-84=100)	180.9	188.6	200.0	203.5	198.7	202.2	202.7	203.1	203.3	204.6
Farm value-retail cost (%)	36.3	35.5	30.3	29.1	30.2	29.4	29.4	29.5	29.7	29.8
Dairy products										
Retail cost (1982-84=100)	142.1	145.5	150.8	152.9	156.1	156.2	156.1	155.7	156.5	158.7
Farm value (1982-84=100)	107.2	98.0	113.0	125.4	89.8	97.0	100.9	99.2	107.4	112.3
Farm-retail spread (1982-84=100)	174.3	189.3	185.6	178.3	217.2	210.8	207.0	207.8	201.8	201.4
Farm value-retail cost (%)	36.2	32.3	36.0	39.3	27.6	29.8	31.0	30.6	32.5	34.0
Poultry										
Retail cost (1982-84=100)	152.4	156.6	157.1	159.3	157.6	155.7	156.8	157.3	158.5	159.8
Farm value (1982-84=100)	126.2	120.6	126.1	143.9	111.7	121.7	124.4	123.5	119.0	120.5
Farm-retail spread (1982-84=100)	182.6	198.1	192.9	177.1	210.5	194.9	194.1	196.2	204.0	205.1
Farm value-retail cost (%)	44.3	41.2	42.9	48.3	37.9	41.8	42.5	42.0	40.2	40.3
Eggs										
Retail cost (1982-84=100)	142.1	140.0	137.1	132.4	129.6	121.4	125.1	119.5	130.8	128.2
Farm value (1982-84=100)	114.7	99.3	89.6	85.2	74.2	60.2	64.6	68.6	72.2	68.2
Farm-retail spread (1982-84=100)	191.4	213.0	222.5	217.1	229.1	231.4	233.8	211.0	236.1	235.9
Farm value-retail cost (%)	51.9	45.6	42.0	41.4	36.8	31.8	33.2	36.9	35.5	34.2
Cereal and bakery products										
Retail cost (1982-84=100)	174.0	177.6	181.1	181.9	184.8	185.1	185.7	186.3	184.9	185.2
Farm value (1982-84=100)	125.6	107.7	94.4	85.6	85.7	84.0	81.8	78.2	81.8	82.0
Farm-retail spread (1982-84=100)	180.7	187.4	193.2	195.3	198.6	199.2	200.2	201.4	199.3	199.6
Farm value-retail cost (%)	7.2	7.4	6.4	5.8	5.7	5.6	5.4	5.1	5.4	5.4
Fresh fruit										
Retail cost (1982-84=100)	243.0	245.1	258.2	260.6	301.7	311.8	302.7	292.7	294.2	294.5
Farm value (1982-84=100)	151.7	137.0	141.3	152.3	155.4	162.1	157.2	145.5	157.1	160.4
Farm-retail spread (1982-84=100)	285.2	295.0	312.2	310.6	369.2	380.9	369.9	360.7	357.5	356.4
Farm value-retail cost (%)	19.7	17.7	17.3	18.5	16.3	16.4	16.4	15.7	16.9	17.2
Fresh vegetables										
Retail cost (1982-84=100)	189.2	194.6	215.8	200.1	206.2	207.7	203.1	206.0	204.8	208.0
Farm value (1982-84=100)	113.3	118.7	124.5	103.0	135.0	126.9	133.2	122.4	113.5	114.3
Farm-retail spread (1982-84=100)	228.3	233.6	262.7	250.0	242.8	249.2	239.0	249.0	251.7	256.2
Farm value-retail cost (%)	20.3	20.7	19.6	17.5	22.2	20.7	22.3	20.2	18.8	18.7
Processed fruits and vegetables										
Retail cost (1982-84=100)	144.4	147.9	150.6	152.1	153.3	155.4	154.8	156.4	156.5	154.9
Farm value (1982-84=100)	121.5	115.9	115.1	117.8	113.2	114.6	115.1	114.5	114.5	115
Farm-retail spread (1982-84=100)	151.6	157.9	161.7	162.8	165.8	168.1	167.2	169.5	169.6	167.4
Farm value-retail cost (%)	20.0	18.6	18.2	18.4	17.6	17.5	17.7	17.4	17.4	17.6
Fats and oils										
Retail cost (1982-84=100)	140.5	141.7	146.9	152.4	149.0	147.2	147.5	148.1	148.6	148.5
Farm value (1982-84=100)	112.3	109.4	118.9	120.5	96.4	91.0	89.2	81.2	80.8	83.0
Farm-retail spread (1982-84=100)	150.9	153.6	157.2	164.1	168.4	167.9	168.9	172.7	173.5	172.6
Farm value-retail cost (%)	21.5	20.8	21.8	21.3	17.4	16.6	16.3	13.7	14.6	15.0

See footnotes at end of table, next page.

Table 8—Farm-Retail Price Spreads (continued)

	Annual			1998		1999				
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
Beef, all fresh retail value (cts/lb)	252.4	253.8	253.3	252.9	256.8	258	256.9	258.59	260.43	264.59
Beef, Choice										
Retail value (cents/lb.) ²	280.2	279.5	277.1	280	287.2	289.3	289	289.4	295.4	300
Wholesale value (cents) ³	158.1	158.2	153.8	158.1	178.1	171.5	175.8	177.3	183.1	180.5
Net farm value (cents) ⁴	134.9	137.2	130.8	131.5	142.1	138.6	140.4	140.9	148.4	149.7
Farm-retail spread (cents)	145.3	142.3	146.3	148.5	145.1	150.7	148.6	148.5	147	150.3
Wholesale-retail (cents) ⁵	122.1	121.3	123.3	121.9	109.1	117.8	113.2	112.1	112.3	119.5
Farm-wholesale (cents) ⁶	23.2	21.0	23.0	26.6	36	32.9	35.4	36.4	34.7	30.8
Farm value-retail value (%)	48	49	47	47	49	48	49	49	50	50
Pork										
Retail value (cents/lb.) ²	233.7	245.0	242.7	241	241.2	244.3	246.8	248.1	244.7	244.7
Wholesale value (cents) ³	123.2	123.1	97.3	84.6	100.5	97	107.7	105.1	99.5	97.7
Net farm value (cents) ⁴	99.4	95.3	61.2	35	63	58.4	68.6	63.3	63.2	62.4
Farm-retail spread (cents)	134.3	149.6	181.5	206	178.2	185.9	178.2	184.8	181.5	182.3
Wholesale-retail (cents) ⁵	110.5	121.9	145.4	156.4	140.7	147.3	139.1	143	145.2	147
Farm-wholesale (cents) ⁶	23.8	27.7	36.1	49.6	37.5	38.6	39.1	41.8	36.3	35.3
Farm value-retail value (%)	43	39	25	21	26	24	28	26	26	26

1. Retail costs are based on CPI-U of retail prices for domestically produced farm foods, published monthly by the Bureau of Labor Statistics (BLS). Farm value is the payment for the quantity of farm equivalent to the retail unit, less allowance for by-product. Farm values are based on prices at first point of sale, and may include marketing charges such as grading and packing for some commodities. The farm-retail spread, the difference between the retail value and farm value, represents charges for assembling, processing, transporting and distributing. 2. Weighted-average value of retail cuts from pork and Choice yield grade 3 beef. Prices from BLS. 3. Value of wholesale (boxed beef) and wholesale cuts (pork) equivalent to 1 lb. of retail cuts adjusted for transportation costs and by-product values. 4. Market value to producer for live animal equivalent to 1 lb. of retail cuts, minus value of by-products. 5. Charges for retailing and other marketing services such as wholesaling and in-city transportation. 6. Charges for livestock marketing, processing, and transportation. *Information contact: Veronica Jones (202) 694-5387, Bill Hahn (202) 694-5175*

Table 9—Price Indexes of Food Marketing Costs

	Annual			1997		1998				1999	
	1996	1997	1998	IV	I	II	III	IV	I	II	
	1987=100*										
Labor—hourly earnings and benefits	459.7	474.3	490.4	480.2	484.9	488.3	493.0	494.6	497.8	502.5	
Processing	474.7	486.0	499.3	490.5	493.8	497.7	500.7	504.9	504.6	513	
Wholesaling	516.0	536.2	552.5	545.4	546.8	552.5	555.4	555.1	556.9	562.3	
Retailing	419.9	435.2	454.1	441.1	448.7	450.6	457.8	459.4	464.9	465.6	
Packaging and containers	399.8	390.3	395.5	392.9	398.5	396.7	394.9	391.9	390.3	396.4	
Paperboard boxes and containers	363.8	341.9	365.2	350.3	365.4	368.7	366.8	359.8	355.7	368.3	
Metal cans	498.3	491.0	487.9	487.9	494.1	484.7	486.0	486.6	486.6	486.6	
Paper bags and related products	437.8	441.9	432.9	442.5	438.8	434.0	430.2	428.5	425.6	435.7	
Plastic films and bottles	326.5	326.6	322.8	327.5	326.7	325.0	321.0	318.5	319.7	321.4	
Glass containers	460.5	447.4	446.8	446.6	446.9	446.9	446.1	447.3	447.8	447.8	
Metal foil	235.7	233.4	232.0	236.4	231.8	232.6	232.6	230.9	228.2	226.1	
Transportation services	429.8	430.0	428.3	429.4	429.9	431.8	426.3	425.0	403.9	393.7	
Advertising	580.1	609.4	624.5	611.6	623.2	624.2	624.5	626.2	634.1	635.3	
Fuel and power	670.7	668.5	619.7	669.0	625.1	622.9	629.2	601.6	586.6	627.3	
Electric	501.3	499.2	492.1	491.5	482.2	489.3	511.8	485.0	479.0	484.0	
Petroleum	666.8	616.7	457.0	609.6	495.5	470.0	439.2	423.3	388.4	504.0	
Natural gas	1,136.7	1,214.0	1,239.4	1,249.4	1,229.4	1,242.1	1,268.5	1,217.7	1,206.3	1,222.8	
Communications, water and sewage	296.8	302.8	307.6	304.2	305.5	308.0	308.5	308.5	309.3	308.5	
Rent	268.2	265.6	260.5	265.1	262.5	260.4	260.4	258.8	257.5	257.5	
Maintenance and repair	499.6	514.9	529.3	519.7	524.1	527.1	531.1	535.1	537.9	540.7	
Business services	501.7	512.3	522.9	514.1	518.4	521.2	521.8	530.3	527.7	528.7	
Supplies	338.3	337.8	332.3	337.9	335.6	332.4	331.4	329.5	326.6	326.4	
Property taxes and insurance	564.3	580.1	598.3	587.3	591.1	595.4	600.7	606.1	609.6	615.2	
Interest, short-term	103.9	108.9	103.7	110.1	106.5	106.7	105.6	96.0	93.2	96.7	
Total marketing cost index	452.1	459.9	467.2	463.4	465.3	466.9	468.6	468.0	466.5	470.9	

Last two quarters preliminary. * Indexes measure changes in employee earnings and benefits and in prices of supplies used in processing, wholesaling, and retailing U.S. farm foods purchased for at-home consumption. *Information contact: Veronica Jones (202) 694-5387*

Livestock & Products

Table 10—U.S. Meat Supply & Use

	Beg. stocks	Production ¹	Imports	Total supply	Exports	Ending stocks	Consumption		Conversion factor ³	Primary market price ⁴
							Total	Per capita ²		
							million lbs. ⁵		lbs.	
									\$/cwt	
Beef										
1996	519	25,419	2,073	28,117	1,877	377	25,863	68	0.700	65.06
1997	377	25,384	2,343	28,210	2,136	465	25,609	67	0.700	66.32
1998	465	25,653	2,642	28,867	2,171	393	26,303	68	0.700	61.48
1999	393	26,315	2,842	29,656	2,374	370	26,912	69	0.700	66
2000	370	24,775	3,015	28,266	2,310	365	25,591	65	0.700	67-72
Pork										
1996	396	17,117	618	18,131	970	366	16,795	49	0.776	56.53
1997	366	17,274	633	18,273	1,044	408	16,821	49	0.776	54.30
1998	408	19,011	704	20,123	1,229	586	18,308	53	0.776	34.72
1999	586	19,373	822	20,781	1,272	525	18,984	54	0.776	34
2000	525	18,655	800	19,980	1,200	500	18,280	52	0.776	37-40
Veal⁶										
1996	7	378	0	385	0	7	378	1	0.83	59
1997	7	334	0	341	0	8	333	1	0.83	82
1998	8	262	0	270	0	5	265	1	0.83	82
1999	5	234	0	239	0	6	233	1	0.83	89
2000	6	222	0	228	0	5	223	1	0.83	94
Lamb and mutton										
1996	8	268	73	349	6	9	334	1	0.89	85
1997	9	260	83	352	5	14	333	1	0.89	88
1998	14	251	112	377	6	12	359	1	0.89	74
1999	12	238	110	360	6	11	343	1	0.89	75
2000	11	215	114	340	6	10	324	1	0.89	76
Total red meat										
1996	930	43,288	2,764	46,982	2,853	759	43,370	120	--	--
1997	759	43,358	3,059	47,176	3,185	895	43,096	118	--	--
1998	895	45,284	3,458	49,637	3,406	996	45,235	123	--	--
1999	996	46,266	3,774	51,036	3,652	912	46,472	125	--	--
2000	912	43,973	3,929	48,814	3,516	880	44,418	118	--	--
<i>¢/lb</i>										
Broilers										
1996	560	26,124	4	26,688	4,420	641	21,626	70	0.859	61
1997	641	27,041	5	27,687	4,664	607	22,416	72	0.859	59
1998	607	27,612	5	28,225	4,673	711	22,841	73	0.859	63
1999	711	29,402	4	30,117	4,631	850	24,635	78	0.859	58
2000	850	30,858	4	31,712	4,675	890	26,147	82	0.869	56
Mature chickens										
1996	7	491	0	498	265	6	228	1	1.0	--
1997	6	510	0	516	384	7	125	1	1.0	--
1998	7	525	0	533	426	6	101	1	1.0	--
1999	6	555	0	563	406	5	152	1	1.0	--
2000	5	567	0	572	415	5	152	1	1.0	--
Turkeys										
1996	271	5,401	1	5,673	438	328	4,906	19	1.0	66
1997	328	5,412	1	5,741	606	415	4,720	18	1.0	65
1998	415	5,215	0	5,630	446	304	4,880	18	1.0	62
1999	304	5,262	0	5,567	356	250	4,961	18	1.0	69
2000	250	5,332	0	5,582	390	300	4,892	18	1.0	69
Total poultry										
1996	839	32,015	5	32,859	5,123	975	26,760	90	--	--
1997	975	32,964	6	33,944	5,654	1,029	27,261	90	--	--
1998	1,029	33,352	6	34,387	5,545	1,022	27,821	91	--	--
1999	1,022	35,219	6	36,246	5,393	1,105	29,748	96	--	--
2000	1,105	36,756	4	37,865	5,480	1,195	31,190	100	--	--
Red meat and poultry										
1996	1,769	75,303	2,769	79,841	7,976	1,734	70,130	209	--	--
1997	1,734	76,322	3,065	81,120	8,839	1,924	70,357	208	--	--
1998	1,924	78,636	3,464	84,024	8,950	2,018	73,057	214	--	--
1999	2,018	81,485	3,780	87,282	9,045	2,017	76,221	221	--	--
2000	2,017	80,729	3,933	86,679	8,996	2,075	75,609	218	--	--

-- = Not available. Values for the last 2 years are forecasts. 1. Total including farm production for red meat and federally inspected plus nonfederally inspected for poultry. 2. Retail-weight basis. 3. Red meat, carcass to retail conversion; poultry, ready-to-cook production to retail weight. 4. Beef: Medium #1, Nebraska Direct 1,100-1,300 lb.; pork: barrows and gilts, Iowa, Southern Minnesota; veal: farm price of calves; lamb and mutton: choice slaughter lambs, San Angelo; broilers: wholesale 12-city average; turkeys: wholesale NY 8-16 lb. young hens. 5. Carcass weight for red meats and certified ready-to-cook for poultry. 6. Beginning in 1989, veal trade is no longer reported separately. *Information contact: LaVerne Williams (202) 694-5190*

Table 11—U.S. Egg Supply & Use

	Beg. stocks	Production	Imports	Total supply	Exports	Hatching use	Ending stocks	Consumption		Primary market price*
								Total	Per capita	
	Million doz.							No.	¢/doz.	
1993	13.5	6,005.8	4.7	6,023.9	158.9	769.6	10.7	5,084.6	236.4	72.5
1994	10.7	6,177.6	3.7	6,192.0	187.6	805.4	14.9	5,184.1	238.7	67.3
1995	14.9	6,215.6	4.1	6,234.6	208.9	847.2	11.2	5,167.3	235.6	72.9
1996	11.2	6,350.7	5.4	6,367.3	253.1	863.8	8.5	5,241.8	236.8	88.2
1997	8.5	6,473.1	6.9	6,488.5	227.8	894.7	7.4	5,358.6	240.1	81.2
1998	7.4	6,658.7	5.8	6,672.0	218.8	921.8	8.4	5,523.0	245.2	75.8
1999	8.4	6,891.7	7.4	6,907.5	158.9	946.3	5.0	5,797.3	254.9	65.7
2000	5.0	7,030.0	4.0	7,039.0	170.0	1,005.0	5.0	5,859.0	255.4	60.0

Values for the last year are forecasts. Values for previous year are preliminary. * Cartoned grade A large eggs, New York.

Information Contact: LaVerne Williams (202) 694-5190

Table 12—U.S. Milk Supply & Use¹

	Commercial				Total commercial supply	Commercial			CCC net removals			
	Production	Farm use	Marketings	Beg. stocks		CCC net removals	Ending stocks	Disappearance	All milk price ¹	Skim solids basis	Total solid basis ²	
	Million lbs. (milkfat basis)											
	\$/cwt											
	Billion lbs.											
1992	150.9	1.9	149.0	4.5	2.5	155.9	9.9	4.7	141.3	13.09	2.0	5.2
1993	150.6	1.8	148.8	4.7	2.8	156.3	6.6	4.5	145.1	12.80	3.9	5.0
1994	153.6	1.7	151.9	4.5	2.9	159.3	4.8	4.3	150.3	12.97	3.7	4.2
1995	155.3	1.6	153.7	4.3	2.9	160.9	2.1	4.1	154.9	12.74	4.4	3.5
1996	154.0	1.5	153.5	4.1	2.9	159.5	0.1	4.7	154.7	14.74	0.7	0.5
1997	156.1	1.4	154.7	4.7	2.7	162.1	1.1	4.9	156.1	13.34	3.7	2.7
1998	157.4	1.4	156.1	4.9	4.5	165.5	0.4	5.3	159.9	15.42	4.0	2.6
1999	162.2	1.3	160.9	5.3	4.6	170.8	0.3	6.4	164.1	14.30	5.8	3.6
2000	164.8	1.3	163.5	6.4	3.6	173.5	0.6	5.7	167.2	12.75	3.6	2.4

Values for latest year are forecasts. Values for the preceding year are preliminary. 1. Delivered to plants and dealers; does not reflect deductions.

2. Arbitrarily weighted average of milkfat basis (40 percent) and solids basis (60 percent). Information contact: Jim Miller (202) 694-5184

Table 13—Poultry & Eggs

	Annual			1998		1999				
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Broilers										
Federally inspected slaughter certified (mil. lb.)	26,336.3	27,270.7	27,862.7	2,496.9	2,480.0	2,590.2	2,471.4	2,516.4	2,497.9	2,466.6
Wholesale price, 12-city (cents/lb.)	61.2	58.8	63.1	68	60.0	60.3	59.5	57.6	57.1	54.9
Price of grower feed (\$/ton) ¹	175.1	157.7	128.7	112.7	105.0	102.7	95.3	96.5	100.0	97.1
Broiler-feed price ratio ²	4.4	4.7	6.3	7.7	7.2	7.5	8	7.5	7.3	6.9
Stocks beginning of period (mil. lb.)	560.1	641.3	606.8	598	800.1	803.3	831.2	929.4	835.3	885.1
Broiler-type chicks hatched (mil.)	8,078.2	8,321.6	8,495.1	693.2	766.2	744.4	750.5	741.3	699.7	697.8
Turkeys										
Federally inspected slaughter certified (mil. lb.)	5,465.6	5,477.9	5,280.6	474.3	440.8	455.7	438.2	468.8	454.9	472.3
Wholesale price, Eastern U.S. 8-16 lb. young hens (cents/lb.)	66.5	64.9	62.2	71.5	65.6	68.9	71.6	73.6	76.3	79.3
Price of turkey grower feed (\$/ton) ¹	165.8	142.7	115.7	102.9	95.7	94.3	86.2	90.7	92.7	90.8
Turkey-feed price ratio ²	5.3	5.6	6.7	8.3	8.3	8.8	9.7	9.5	9.6	10
Stocks beginning of period (mil. lb.)	271.3	328.0	415.1	699.5	455.5	494.3	556.1	599.0	580.3	596.4
Poults placed in U.S. (mil.)	327.2	321.5	297.8	22.7	26.1	25.6	26.8	24.8	21.8	22.3
Eggs										
Farm production (mil.)	76,532	77,677	79,905	6,791	6,925	6,734	6,903	6,970	6,860	7,126
Average number of layers (mil.)	299	304	313	315	320	320	320	320	322	325
Rate of lay (eggs per layer on farms)	256.2	255.3	255.4	21.6	21.6	21.0	21.6	21.8	21.3	21.9
Cartoned price, New York, grade A large (cents/doz.) ³	88.2	81.2	75.8	78.9	59.2	54.9	68.7	67.4	62.4	56.5
Price of laying feed (\$/ton) ¹	182.5	160.0	137.5	117.3	137.4	131.7	116.9	116.8	121.9	128.5
Egg-feed price ratio ²	8.6	8.8	9.8	11.3	7.7	8.4	9.8	10.1	9.3	7.8
Stocks, first of month										
Frozen (mil. doz.)	10.5	7.7	7.4	6.2	7.1	7.4	8.6	8.5	6.7	7.2
Replacement chicks hatched (mil.)	401.6	424.5	438.4	34.6	40.6	40.6	34.3	35.5	38.8	38.6

1. Calculated from price ratios that were revised February 1995. 2. Pounds of feed equal in value to 1 dozen eggs or 1 lb. of broiler or turkey liveweight (revised February 1995). 3. Price of cartoned eggs to volume buyers for delivery to retailers. Information contact: LaVerne Williams (202) 694-5190

Table 14—Dairy

	Annual			1998			1999			
	1996	1997	1998	Oct	May	Jun	Jul	Aug	Sep	Oct
Milk--Basic Formula Price (\$/cwt) ¹	13.4	12.1	14.2	16.0	11.26	11.42	13.59	15.79	16.26	11.49
Wholesale prices										
Butter, Central States (cents/lb.) ²	108.2	116.2	177.6	242.2	111	147.7	134.7	141.3	135.8	113.7
Am. cheese, Wis. assembly pt. (cents/lb.)	149.1	132.4	158.1	183.5	124.8	138.1	159.7	188.9	167.3	134
Nonfat dry milk (cents/lb.) ³	122.2	110.0	106.9	111.8	102.3	101.4	101.7	103.8	104.9	104.5
USDA net removals										
Total (mil. lb.) ⁴	86.9	1,090.3	365.6	13.7	20.5	22.6	19.8	20.3	30.3	29.5
Butter (mil. lb.)	0.1	38.4	6.3	0.0	0	0	0	0	0.5	0.5
Am. cheese (mil. lb.)	4.6	11.3	8.2	0.6	0.3	0.1	0.2	0.5	0.4	0.6
Nonfat dry milk (Mil. lb.)	57.2	298.0	326.4	15.8	53.8	69.7	55	36.3	39.4	33.4
Milk										
Milk prod. 20 states (mil. lb.)	131,084	133,314	134,930	11,125	12,430	11,714	11,587	11,536	11,198	11,598
Milk per cow (lb.)	16,726	17,180	17,501	1,446	1,609	1,515	1,497	1,489	1,444	1,496
Number of milk cows (1,000)	7,837	7,760	7,710	7,695	7,725	7,730	7,738	7,745	7,753	7,752
U.S. milk production (mil. lb.) ⁵	154,006	156,091	157,441	12,961	14,441	13,605	13,429	13,365	12,969	13,452
Stocks, beginning ⁴										
Total (mil. lb.)	4,168	4,714	4,907	5,833	8,389	9,117	9,303	9,476	8,400	7,498
Commercial (mil. lb.)	4,099	4,704	4,889	5,793	8,362	9,086	9,264	9,432	8,350	7,455
Government (mil. lb.)	69	10	18	40	27	31	39	44	50	43
Imports, total (mil. lb.) ⁴	2,911	2,698	4,588	552	330	317	457	476	432	--
Commercial disappearance (mil. lb.) ⁴	154,745	156,120	159,917	13,745	13,916	13,614	13,587	14,793	14,159	--
Butter										
Production (mil. lb.)	1,174.5	1,151.2	1,081.9	88.5	104.7	86	75.7	66.1	78.8	93.3
Stocks, beginning (mil. lb.)	15.8	13.4	20.5	33.9	126.3	136.3	121.0	123.2	94.9	71.3
Commercial disappearance (mil. lb.)	1,179.8	1,108.7	1,136.4	101.5	96.9	104.8	79.7	100.4	104.4	--
American cheese										
Production (mil. lb.)	3,280.8	3,285.6	3,325.8	266.8	314.6	297.2	303.9	294.5	283.6	297.8
Stocks, beginning (mil. lb.)	306.6	379.6	410.3	417.3	450.5	495.7	539.1	545	510.8	474.8
Commercial disappearance (mil. lb.)	3,229.7	3,269.0	3,349.7	289.4	274.1	257.6	302.1	332.1	325.8	--
Other cheese										
Production (mil. lb.)	3,936.7	4,044.9	4,176.1	365.3	361.6	375.6	349.1	356.9	354.8	367.2
Stocks, beginning (mil. lb.)	105.3	107.3	70.0	135.5	172.9	181.0	195.8	205.3	186.7	177.8
Commercial disappearance (mil. lb.)	4,242.9	4,366.6	4,450.6	409.5	380.6	384.6	369.1	409.5	398.5	--
Nonfat dry milk										
Production (mil. lb.)	1,061.8	1,271.6	1,135.4	75.0	137.2	120.4	98.9	99.5	90.6	101.6
Stocks, beginning (mil. lb.)	70.6	71.1	103.3	64.4	136.5	163.7	158.3	141.1	101.3	87.2
Commercial disappearance (mil. lb.)	1,009.5	894.1	867.5	77.1	57	56.5	62.2	104	66.3	--
Frozen dessert										
Production (mil. gal.) ⁶	1,240.9	1,290.0	1,325.9	99.5	119.8	136.0	133.7	126.0	108.5	93.6
	Annual			1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III
Milk production (mil. lb.)	154,006	156,091	157,441	39,164	40,821	38,519	38,937	40,540	41,980	39,763
Milk per cow (lb.)	16,433	16,871	17,192	4,268	4,451	4,210	4,261	4,437	4,587	4,339
No. of milk cows (1,000)	9,372	9,252	9,158	9,176	9,171	9,149	9,137	9,136	9,151	9,165
Milk-feed price ratio	1.60	1.54	1.97	1.73	1.71	2.05	2.46	2.20	1.81	2.12
Returns over concentrate costs (\$/cwt milk)	10.98	9.80	12.15	11.10	10.40	12.25	14.80	13.00	9.90	12.00

-- = Not available. Quarterly values for latest year are preliminary. 1. Manufacturing grade milk. 2. Grade AA Chicago before June 1998. 3. Prices paid f.o.b. Central States production area. 4. Milk equivalent, fat basis. 5. Monthly data ERS estimates. 6. Hard ice cream, ice milk, and hard sherbet.

Information contact: LaVerne Williams (202) 694-5190

Table 15—Wool

	Annual			1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III
U.S. wool price (¢/lb.) ¹	193	238	162	209	178	142	115	115	116	110
Imported wool price (¢/lb.) ²	196	206	164	192	176	141	141	146	142	133
U.S. mill consumption, scoured										
Apparel wool (1,000 lb.)	129,525	130,386	98,373	29,318	29,577	21,948	17,530	17,767	17,352	16,759
Carpet wool (1,000 lb.)	12,311	13,576	16,331	3,871	4,052	4,020	4,388	4,538	3,855	3,426

-- = Not available. 1. Wool price delivered at U.S. mills, clean basis, Graded Territory 64's (20.60-22.04 microns) staple 2-3/4" and up. 2. Wool price, Charleston, SC warehouse, clean basis, Australian 60/62's, type 64A (24 micron). Duty since 1982 has been 10 cents.

Information contact: Mae Dean Johnson (202) 694-5299

Table 16—Meat Animals

	Annual		1998			1999					
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov	
Cattle on feed (7 states, 1000+ head capacity)											
Number on feed (1,000 head) ¹	8,667	8,943	9,455	9,190	8,537	8,173	7,879	8,175	8,783	9,769	
Placed on feed (1,000 head)	19,564	20,765	19,697	1,732	1,505	1,565	2,070	2,345	2,609	1,823	
Marketings (1,000 head)	18,636	19,552	19,126	1,455	1,825	1,816	1,732	1,682	1,560	1,525	
Other disappearance (1,000 head)	652	701	691	63	44	43	42	55	63	62	
Market prices (\$/cwt)											
Slaughter cattle											
Choice steers, 1,100-1,300 lb.											
Texas	65.06	65.99	61.75	62.23	66.15	64.51	65.29	66.05	69.63	70.28	
Neb. direct	65.05	66.32	61.48	61.37	63.20	64.05	65.26	66.06	69.58	70.31	
Boning utility cows, Sioux Falls	30.33	34.27	36.20	30.82	40.00	42.50	42.60	38.00	39.44	37.88	
Feeder steers											
Medium no. 1, Oklahoma City											
600-650 lb.	61.31	81.34	77.70	71.99	82.15	84.24	81.85	83.20	82.03	87.19	
750-800 lb.	61.08	76.19	71.78	77.23	76.01	76.94	77.04	78.73	80.53	82.25	
Slaughter hogs											
Barrows and gilts, 51-52 percent lean											
National Base converted to live equal.	56.53	54.30	34.72	19.95	35.39	32.84	38.56	35.71	35.84	35.34	
Sows, Iowa, S.MN 1-2 300-400 lb.	--	40.24	20.29	16.09	24.29	16.22	18.65	19.90	19.73	19.25	
Slaughter sheep and lambs											
Lambs, Choice, San Angelo	85.27	87.95	74.20	63.33	81.06	77.29	81.17	76.71	74.81	78.00	
Ewes, Good, San Angelo	39.05	49.33	40.90	36.04	41.70	48.18	43.50	42.79	36.44	41.17	
Feeder lambs											
Choice, San Angelo	94.88	104.43	79.59	74.17	80.60	77.29	78.83	76.71	75.25	82.54	
Wholesale meat prices, Midwest											
Boxed beef cut-out value											
Choice, 700-800 lb.	102.01	102.75	98.60	102.61	116.01	111.14	114.26	115.13	119.21	119.33	
Select, 700-800 lb.	95.34	96.15	92.19	93.16	104.76	101.45	104.62	102.69	104.12	106.63	
Canner and cutter cow beef	58.18	64.50	61.49	55.58	68.20	70.33	70.15	67.63	66.00	--	
Pork cutout	--	--	53.07	42.09	53.69	50.55	61.27	56.67	55.75	54.50	
Pork loins, bone-in, 1/4 " trim, 14-19 lb.	138.73	128.75	102.04	79.90	97.62	105.72	111.55	104.99	98.98	93.13	
Pork bellies, 12-14 lb.	69.96	73.91	52.38	39.13	53.41	47.78	67.29	57.87	70.83	71.50	
Hams, bone-in, trimmed, 20-23 lb.	--	--	--	41.84	43.54	40.79	52.10	53.65	55.68	66.50	
All fresh beef retail price	252.44	253.77	253.28	252.89	256.76	257.96	256.92	258.59	260.43	264.59	
Commercial slaughter (1,000 head) ²											
Cattle	36,583	36,318	35,471	2,773	3,207	3,084	3,154	3,101	3,095	--	
Steers	17,819	17,529	17,430	1,349	1,656	1,576	1,601	1,542	1,474	--	
Heifers	10,756	11,528	11,450	859	1,047	922	1,021	1,028	1,051	--	
Cows	7,274	6,564	5,985	517	448	446	469	474	512	--	
Bull and stags	728	696	606	48	56	53	61	57	57	--	
Calves	1,768	1,575	1,456	112	105	111	119	121	105	--	
Sheep and lambs	4,184	3,911	3,911	298	270	265	296	307	305	--	
Hogs	92,394	91,960	101,208	8,809	8,319	7,910	8,406	8,644	8,947	--	
Barrows and gilts	88,224	88,409	97,026	8,482	7,154	7,154	8,054	8,315	8,643	--	
Commercial production (mil. lb.)											
Beef	25,421	25,384	25,656	2,003	2,321	2,256	2,309	2,276	2,265	--	
Veal	368	324	250	19	17	17	20	20	19	--	
Lamb and mutton	265	257	247	19	19	19	19	19	20	--	
Pork	17,084	17,244	18,981	1,683	1,583	1,489	1,565	1,618	1,698	--	
		Annual			1998				1999		
		1997	1998	1999	II	III	IV	I	II	III	IV
Hogs and pigs (U.S.) ³											
Inventory (1,000 head) ¹	56,124	61,158	62,206	60,163	62,213	63,488	62,206	60,191	60,686	60,736	
Breeding (1,000 head) ¹	6,578	6,957	6,682	6,942	6,958	6,875	6,682	6,527	6,515	6,291	
Market (1,000 head) ¹	49,546	54,200	55,523	53,220	55,254	56,612	55,523	53,663	54,170	54,444	
Farrowings (1,000 head)	11,479	12,038	11,662	3,086	3,054	2,993	2,897	2,990	2,925	2,850	
Pig crop (1,000 head)	99,584	104,980	--	26,989	26,634	25,902	25,293	26,301	25,907	--	
Cattle on Feed, 7 states (1,000 head) ⁴											
Steers and Steer Calves	5,410	5,803	5,086	5,245	4,608	5,086	5,086	5,331	5,728	5,276	
Heifers and Heifer Calves	3,455	3,615	3,268	3,325	3,191	3,268	3,268	3,527	3,783	3,479	
Cows and Bulls	78	37	22	37	26	22	22	31	44	28	

-- = Not available. 1. Beginning of period. 2. Classes estimated. 3. Quarters are Dec. of preceding year to Feb. (I), Mar.-May (II), June-Aug. (III), and Sept.-Nov. (IV). 4. Beginning of period. The 7 states include AZ, CA, CO, IA, KS, NE, and TX. Information contact: Leland Southard (202) 694-5187

Crops & Products

Table 17—Supply & Utilization^{1,2}

	Area		Yield	Production	Total supply ⁴	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price ⁵	
	Set-aside ³	Planted										Harvested
	<i>Mil. Acres</i>	<i>Bu./acre</i>										<i>Mil. bu.</i>
Wheat												
1995/96	6.1	69.0	61.0	35.8	2,183	2,757	154	986	1,241	2,381	376	4.55
1996/97	--	75.1	62.8	36.3	2,277	2,746	308	993	1,002	2,302	444	4.30
1997/98	--	70.4	62.8	39.5	2,481	3,020	251	1,007	1,040	2,298	722	3.38
1998/99*	--	65.8	59.0	43.2	2,547	3,373	396	989	1,042	2,427	946	2.65
1999/2000	--	63.0	54.1	42.7	2,308	3,354	250	1,002	1,075	2,327	1,027	2.45-2.55
	<i>Mil. acres</i>	<i>Bu./acre</i>										<i>\$/bu.</i>
Rice⁶												
1995/96	0.5	3.1	3.1	5,621.0	173.9	212.8	--	6/ 105.6	82.2	187.8	25.0	9.15
1996/97	--	2.8	2.8	6,120.0	171.6	207.1	--	6/ 102.7	77.2	179.9	27.2	9.96
1997/98	--	3.1	3.1	5,897.0	183.0	219.4	--	6/ 105.2	86.3	191.5	27.9	9.70
1998/99*	--	3.3	3.3	5,669.0	188.1	226.5	--	6/ 120.9	83.6	204.5	22.0	8.83
1999/2000	--	3.6	3.6	5,929.0	211.7	244.4	--	6/ 113.0	82.0	195.0	49.4	5.50-6.00
	<i>Mil. acres</i>	<i>Bu./acre</i>						<i>Mil. cwt (rough equiv)</i>				<i>\$/cwt</i>
Corn												
1995/96	7.7	71.5	65.2	113.5	7,400	8,974	4,708	1,612	2,228	8,548	426	3.24
1996/97	--	79.2	72.6	127.1	9,233	9,672	5,299	1,692	1,797	8,789	883	2.71
1997/98	--	79.5	72.7	126.7	9,207	10,099	5,505	1,782	1,504	8,791	1,308	2.43
1998/99*	--	80.2	72.6	134.4	9,761	11,088	5,489	1,822	1,981	9,291	1,796	1.94
1999/2000	--	77.6	70.9	134.5	9,537	11,349	5,550	1,880	1,925	9,355	1,994	1.60-2.00
	<i>Mil. acres</i>	<i>Bu./acre</i>						<i>Mil. bu.</i>				<i>\$/bu.</i>
Sorghum												
1995/96	1.7	9.4	8.3	55.6	459	530	295	19	198	512	18	3.19
1996/97	--	13.1	11.8	67.3	795	814	516	45	205	766	47	2.34
1997/98	--	10.1	9.2	69.2	634	681	365	55	212	632	49	2.21
1998/99*	--	9.6	7.7	67.3	520	569	262	45	197	504	65	1.66
1999/2000	--	9.3	8.5	70.1	596	661	315	55	210	580	81	1.35-1.75
	<i>Mil. acres</i>	<i>Bu./acre</i>						<i>Mil. bu.</i>				<i>\$/bu.</i>
Barley												
1995/96	2.9	6.7	6.3	57.2	359	513	179	172	62	413	100	2.89
1996/97	--	7.1	6.7	58.5	392	529	217	172	31	419	109	2.74
1997/98	--	6.7	6.2	58.1	360	510	144	172	74	390	119	2.38
1998/99*	--	6.3	5.9	60.0	352	501	161	170	28	360	142	1.98
1999/2000	--	5.2	4.8	59.2	282	449	120	172	30	322	127	1.90-2.20
	<i>Mil. acres</i>	<i>Bu./acre</i>						<i>Mil. bu.</i>				<i>\$/bu.</i>
Oats												
1995/96	0.8	6.2	3.0	54.6	161	342	182	92	2	276	66	1.67
1996/97	--	4.6	2.7	57.7	153	317	153	95	3	250	67	1.96
1997/98	--	5.1	2.8	59.5	167	332	161	95	2	258	74	1.60
1998/99*	--	4.9	2.8	60.2	166	348	170	95	2	266	81	1.10
1999/2000	--	4.7	2.5	59.7	147	328	165	96	2	263	65	1.05-1.15
	<i>Mil. acres</i>	<i>Bu./acre</i>						<i>Mil. bu.</i>				<i>\$/bu.</i>
Soybeans⁷												
1995/96	--	62.6	61.6	35.3	2,177	2,516	112	1,370	851	2,333	183	6.72
1996/97	--	64.2	63.3	37.6	2,380	2,573	123	1,436	882	2,441	132	7.35
1997/98	--	70.0	69.1	38.9	2,689	2,826	156	1,597	873	2,626	200	6.47
1998/99*	--	72.0	70.4	38.9	2,741	2,944	205	1,590	801	2,596	348	4.93
1999/2000	--	74.1	72.8	36.7	2,673	3,024	154	1,610	865	2,629	395	4.45-4.95
								<i>Mil. lbs.</i>				<i>¢/lb.</i>
Soybean oil												
1995/96	--	--	--	--	15,240	16,472	--	13,465	992	14,457	2,015	24.75
1996/97	--	--	--	--	15,752	17,821	--	14,263	2,037	16,300	1,520	22.50
1997/98	--	--	--	--	18,143	19,723	--	15,262	3,079	18,341	1,382	25.84
1998/99*	--	--	--	--	18,081	19,546	--	15,655	2,372	18,027	1,520	19.90
1999/2000	--	--	--	--	18,115	19,715	--	15,800	1,800	17,600	2,115	15.00-17.50
								<i>1,000 tons</i>				<i>\$/ton⁸</i>
Soybean meal												
1995/96	--	--	--	--	32,527	32,826	--	26,611	6,002	32,613	212	236.0
1996/97	--	--	--	--	34,210	34,524	--	27,320	6,994	34,314	210	270.9
1997/98	--	--	--	--	38,176	38,443	--	28,895	9,329	38,225	218	185.5
1998/99*	--	--	--	--	37,792	38,109	--	30,662	7,117	37,779	330	138.5
1999/2000	--	--	--	--	38,270	38,650	--	31,000	7,400	38,400	250	140-165

See footnotes at end of table, next page

Table 17—Supply & Utilization (continued)

	Area				Productio	Total supply ⁴	Feed & residual	Other domestic use	Exports	Total use	Ending stocks	Farm price ⁵
	Set-aside ³	Planted	Harvested	Yield								
	Mil. Acres		Lb./acre									
Cotton ⁹												
1995/96	1.7	16.9	16.0	537	17.9	21.0	--	10.6	7.7	18.3	2.6	75.4
1996/97	0.3	14.7	12.9	705	18.9	22.0	--	11.1	6.9	18.0	4.0	69.3
1997/98	--	13.9	13.4	673	18.8	22.8	--	11.3	7.5	18.8	3.9	65.2
1998/99*	--	13.4	10.7	625	13.9	18.2	--	10.4	4.3	14.7	3.9	60.2
1999/2000	--	14.6	13.4	604	16.9	20.9	--	10.2	6.2	16.4	4.5	--

-- = Not available or not applicable. *December 10, 1999 Supply and Demand Estimates. 1. Marketing year beginning June 1 for wheat, barley, and oats; August 1 for cotton and rice; September 1 for soybeans, corn, and sorghum; October 1 for soybean and soyoil. 2. Conversion factors: Hectare (ha.) = 2.471 acres, 1 metric ton = 2,204.622 pounds, 36.7437 bushels of wheat or soybeans, 39.3679 bushels of corn or sorghum, 45.9296 bushels of barley, 68.8944 bushels of oats, 22.046 cwt of rice, and 4.59 480-pound bales of cotton. 3. Includes diversion, acreage reduction, 50-92, & 0-92 programs. 0/92 & 50/92 set-aside includes idled acreage and acreage planted to minor oilseeds, sesame, and crambe. 4. Includes imports. 5. Marketing-year weighted average price received by farmers. Does not include an allowance for loans outstanding and government purchases. 6. Residual included in domestic use. 7. Includes seed. 8. Simple average of 48 percent protein, Decatur. 9. Upland and extra-long staple. Stocks estimates based on Census Bureau data, resulting in an unaccounted difference between supply and use estimates and changes in ending stocks. *Information contacts: Wheat, rice, feed grains, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

Table 18—Cash Prices, Selected U.S. Commodities

	Marketing year ¹			1998		1999					
	1996/97	1997/98	1998/99	Oct	May	Jun	Jul	Aug	Sep	Oct	
Wheat, no. 1 HRW,											
Kansas City (\$/bu.) ²	4.88	3.71	3.08	3.30	2.89	2.93	2.68	2.85	2.92	2.80	
Wheat, DNS,											
Minneapolis (\$/bu.) ³	4.96	4.31	3.83	4.03	3.61	3.73	3.68	3.58	3.55	3.70	
Rice, S.W. La. (\$/cwt) ⁴	20.34	18.92	16.79	17.50	15.56	15.13	14.91	14.68	14.38	14.00	
Corn, no. 2 yellow, 30-day,											
Chicago (\$/bu.) ⁵	2.84	2.56	2.06	2.00	2.16	2.11	1.78	1.84	1.88	1.90	
Sorghum, no. 2 yellow,											
Kansas City (\$/cwt) ⁵	4.54	4.11	3.29	3.17	3.35	3.32	2.92	3.24	2.97	2.71	
Barley, feed,											
Duluth (\$/bu.)	2.32	1.90	--	--	--	--	--	--	--	--	
Barley, malting											
Minneapolis (\$/bu.)	3.18	2.50	--	--	--	--	--	--	--	--	
U.S. cotton price, SLM,											
1-1/16 in. (¢/lb.) ⁶	71.60	67.79	--	--	55.54	53.74	49.23	49.72	48.39	--	
Northern Europe prices											
cotton index (¢/lb.) ⁷	78.66	72.11	--	--	59.85	58.68	54.56	50.98	49.26	--	
U.S. M 1-3/32 in. (¢/lb.) ⁸	82.86	77.98	--	--	--	--	--	58.63	56.30	--	
Soybeans, no. 1 yellow, 30-day											
Chicago (\$/bu)	7.38	6.51	--	5.26	4.59	4.45	4.11	4.45	4.65	4.60	
Soybean oil, crude,											
Decatur (¢/lb.)	22.50	25.84	19.90	25.21	17.85	16.50	15.29	16.50	16.79	16.08	
Soybean meal, 48% protein,											
Decatur (\$/ton)	270.90	185.54	138.50	135.70	133.20	139.10	132.73	141.69	150.63	153.57	

-- = No quotes. 1. Beginning June 1 for wheat and barley; Aug. 1 for rice and cotton; September 1 for corn, sorghum, and soybeans; October 1 for soybean and oil. 2. Ordinary protein. 3. 14 percent protein. 4. Long grain, milled basis. 5. Marketing year 1997/98 data are preliminary. 6. Average spot market. 7. Liverpool Cotlook "A" Index; average of 5 lowest prices of 13 selected growths. 8. Cotton, Memphis territory growths. *Information contacts: Wheat, rice, and feed, Jenny Gonzales (202) 694-5296; soybeans, soybean products, and cotton, Mae Dean Johnson (202) 694-5299*

Table 19—Farm Programs, Price Supports, Participation, & Payment Rates

	Target price	Basic loan rate	Findley or announced loan rate ¹	Total deficiency payment rate	Effective base acres ²	Program ³	Flexibility contract payment rate	Acres under contract	Contract payment yields	Participation rate ⁴
	\$/bu.				Mil. acres	Percent of base	\$/bu.	Mil. acres	Bu./cwt	Percent
Wheat										
1995/96	4.00	2.69	2.58	0.00	77.70	0/0/0	--	--	--	85
1996/97	--	--	2.58	--	--	--	0.87	76.70	34.70	99
1997/98	--	--	2.58	--	--	--	0.631	76.7	34.70	--
1998/99	--	--	2.58	--	--	--	0.663	78.9	34.50	--
1999/2000 ⁵	--	--	2.58	--	--	--	0.637	79.0	34.50	--
		\$/cwt					\$/cwt			
Rice										
1995/96	10.71	6.50	6.50 ⁶	3.22 #	4.20	5/0/0	--	--	--	95
1996/97	--	6.50	--	--	--	--	2.77	4.20	48.27	99
1997/98	--	6.50	--	--	--	--	2.710	4.2	48.17	--
1998/99	--	6.50	--	--	--	--	2.921	4.2	48.17	--
1999/2000 ⁵	--	6.50	--	--	--	--	2.820	4.2	48.15	--
		\$/bu.					\$/bu.			
Corn										
1995/96	2.75	1.94	1.89	0.00	81.80	7.5/0/0	--	--	--	82
1996/97	--	--	1.89	--	--	--	0.25	80.70	102.90	98
1997/98	--	--	1.89	--	--	--	0.486	80.9	102.80	--
1998/99	--	--	1.89	--	--	--	0.377	82.0	102.60	--
1999/2000 ⁵	--	--	1.89	--	--	--	0.363	81.9	102.60	--
		\$/bu.					\$/bu.			
Sorghum										
1995/96	2.61	1.84	1.80	0.00	13.30	0/0/0	--	--	--	77
1996/97	--	--	1.81	--	--	--	0.32	13.10	57.30	99
1997/98	--	--	1.76	--	--	--	0.544	13.1	57.30	--
1998/99	--	--	1.74	--	--	--	0.452	13.6	56.90	--
1999/2000 ⁵	--	--	1.74	--	--	--	0.435	13.7	56.90	--
		\$/bu.					\$/bu.			
Barley										
1995/96	2.36	1.58	1.54	0.00	10.70	0/0/0	--	--	--	82
1996/97	--	--	1.55	--	--	--	0.33	10.50	47.30	99
1997/98	--	--	1.57	--	--	--	0.277	10.5	47.20	--
1998/99	--	--	1.56	--	--	--	0.284	11.2	46.70	--
1999/2000 ⁵	--	--	1.59	--	--	--	0.271	11.2	46.60	--
		\$/bu.					\$/bu.			
Oats										
1995/96	1.45	1.00	0.97	0.00	6.50	0/0/0	--	--	--	44
1996/97	--	--	1.03	--	--	--	0.03	6.20	50.80	97
1997/98	--	--	1.11	--	--	--	0.031	6.2	50.80	--
1998/99	--	--	1.11	--	--	--	0.031	6.5	50.70	--
1999/2000 ⁵	--	--	1.13	--	--	--	0.030	6.5	50.60	--
		\$/bu.					\$/bu.			
Soybeans⁸										
1995/96	--	--	4.92	--	--	--	--	--	--	--
1996/97	--	--	4.97	--	--	--	--	--	--	--
1997/98	--	--	5.26	--	--	--	--	--	--	--
1998/99	--	--	5.26	--	--	--	--	--	--	--
1999/2000	--	--	5.26	--	--	--	--	--	--	--
		¢/lb.					¢/lb.			
Upland cotton										
1995/96	72.90	51.92	51.92 ⁹	0.00 #	15.50	0/0/0	--	--	--	79
1996/97	--	51.92	--	--	--	--	8.88	16.20	610.00	99
1997/98	--	51.92	--	--	--	--	7.625	16.2	608.00	--
1998/99	--	51.92	--	--	--	--	8.173	16.4	604.00	--
1999/2000 ⁵	--	51.92	--	--	--	--	7.880	16.4	604.00	--

-- = Not available. 1. There are no Findley loan rates for rice or cotton. See footnotes 5 and 7. 2. Prior to 1996, national effective crop acreage base as determined by FSA. Net of CRP. 3. Program requirements for participating producers (mandatory acreage reduction program/mandatory paid land diversion/optional paid land diversion). Acres idled must be devoted to a conserving use to receive program benefits. 4. Percentage of effective base enrolled in acreage reduction programs. Starting in 1996, participation rate is the percent of eligible acres that entered production flexibility contracts. 5. Estimated payment rates and acres under contract. 6. A marketing loan program has been in effect for rice since 1985/86. Loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly). Loans cannot be repaid at less than a specified fraction of the loan rate. Data refer to marketing-year average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. 7. Guaranteed payment rates for producers in the 50/85/92 program were \$0.034/lb. for upland cotton and \$4.21/cwt. for rice. 8. There are no target prices, base acres, acreage reduction programs or deficiency payment rates for soybeans. 9. A marketing loan program has been in effect for cotton since 1986/87. In 1987/88 and after, loans may be repaid at the lower of: a) the loan rate or b) the adjusted world market price (announced weekly; Plan B). Starting in 1991/92, loans cannot be repaid at less than 70 percent of the loan rate. Data refer to annual average loan repayment rates. Beginning with the 1996 crop, loans are repaid at the lower of the loan rate plus accumulated interest or the adjusted world price. Note: The 1996 Farm Act replaced target prices and deficiency payments with fixed annual payments to producers. Information contact: Brenda Chewning, Farm Service Agency (202) 720-8838

Table 20—Fruit

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Citrus ¹										
Production (1,000 tons)	13,186	10,860	11,285	12,452	15,274	14,561	15,799	15,712	17,271	17,770
Per capita consumpt. (lb.) ²	23.6	21.4	19.1	24.4	26.0	25.0	24.1	24.9	27.0	27.0
Noncitrus ³										
Production (1,000 tons)	16,345	15,640	15,740	17,124	16,554	17,339	16,348	16,103	18,363	16,484
Per capita consumpt. (lb.) ²	72.8	70.4	70.6	73.8	73.9	75.6	73.7	73.9	76.3	76.2
	1998					1999				
Grower prices	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Apples (¢/pound) ⁴	17.5	15.3	14.1	13.3	12.7	12.4	18.4	23.2	23.5	23.3
Pears (¢/pound) ⁴	17.60	16.55	16.85	17.00	17.80	23.45	17.05	19.40	22.05	23.05
Oranges (\$/box) ⁵	5.87	6.02	5.82	6.46	8.78	10.10	11.48	7.98	10.25	4.33
Grapefruit (\$/box) ⁵	3.19	1.67	2.23	3.66	8.78	10.67	7.45	8.18	6.80	5.21
Stocks, ending										
Fresh apples (mil. lb.)	5,914	2,607	1,858	1,252	732	361	103	2,835	6,175	--
Fresh pears (mil. lb.)	384	120	69	39	10	12	130	552	512	--
Frozen fruits (mil. lb.)	1,353	911	789	801	877	1,101	1,183	1,136	1,313	--
Frozen conc. orange juice (mil. single-strength gallons)	629	894	1,035	878	817	744	661	589	482	--

-- = Not available. 1. Year shown is when harvest concluded. 2. Fresh per capita consumption. 3. Calendar year. 4. Fresh use. 5. U.S. equivalent on-tree returns. *Information contact: Susan Pollack (202) 694-5251*

Table 21—Vegetables

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Production ¹										
Total vegetables (1,000 cwt)	562,938	565,754	689,070	688,824	782,505	747,988	762,952	760,951	732,259	--
Fresh (1,000 cwt) ^{2,4}	254,039	242,733	389,597	387,330	412,880	393,398	409,317	433,878	419,779	--
Processed (tons) ^{3,4}	15,444,970	16,151,030	14,973,630	15,074,707	18,481,238	17,729,497	17,681,732	16,353,639	15,624,011	--
Mushrooms (1,000 lbs) ⁵	749,151	746,832	776,357	750,799	782,340	777,870	776,677	808,678	848,401	--
Potatoes (1,000 cwt)	402,110	417,622	425,367	430,349	469,425	445,099	499,254	467,091	475,771	481,482
Sweet potatoes (1,000 cwt)	12,594	11,203	12,005	11,027	13,380	12,821	13,216	13,327	12,382	--
Dry edible beans (1,000 cwt)	32,379	33,765	22,615	21,862	28,950	30,689	27,912	29,370	30,828	31,755
	1998					1999				
Shipments (1,000 cwt)	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Fresh	20,480	26,297	25,769	29,042	36,831	21,355	17,816	20,143	17,722	19,204
Iceberg lettuce	3,360	3,721	3,018	3,594	4,370	3,287	3,079	3,952	3,382	2,918
Tomatoes, all	3,198	4,588	3,874	3,596	4,053	2,766	2,478	3,599	3,096	3,205
Dry-bulb onions	3,430	3,825	3,630	3,626	3,759	3,029	3,124	4,461	3,764	3,597
Others ⁶	10,492	14,163	15,247	18,226	24,649	12,273	9,135	8,131	7,480	9,484
Potatoes, all	13,401	18,522	17,737	16,160	13,579	9,825	9,217	12,148	10,753	12,583
Sweet potatoes	736	462	208	184	196	155	172	321	313	681

-- = Not available. 1. Calendar year except mushrooms. 2. Includes fresh production of asparagus, broccoli, carrots, cauliflower, celery, sweet corn, lettuce, honeydews, onions, & tomatoes through 1991. 3. Includes processing production of snap beans, sweet corn, green peas, tomatoes, cucumbers (for pickles), asparagus, broccoli, carrots, and cauliflower. 4. Data after 1991 not comparable to previous years because commodity estimates reinstated in 1992 are included. 5. Fresh and processing agaricus mushrooms only. Excludes specialty varieties. Crop year July 1- June 30. 6. Includes snap beans, broccoli, cabbage, cauliflower, celery, sweet corn, cucumbers, eggplant, bell peppers, honeydews, and watermelons.

Information contact: Gary Lucier (202) 694-5253

Table 22—Other Commodities

	Annual				1998				1999		
	1996	1997	1998	I	II	III	IV	I	II	III	
Sugar											
Production ¹	7,268	7,418	7,891	2,376	824	733	3,959	2,636	1,031	--	
Deliveries ¹	9,633	9,755	9,851	2,261	2,465	2,616	2,508	2,271	2,594	--	
Stocks, ending ¹	3,195	3,377	3,423	3,917	2,881	1,679	3,423	4,219	3,184	--	
Coffee											
Composite green price ² N.Y. (¢/lb.)	109.35	146.49	114.43	143.58	117.73	98.57	97.83	94.37	90.41	77.40	
	Annual				1998				1999		
	1996	1997	1998	Mar	Oct	Nov	Dec	Jan	Feb	Mar	
Tobacco											
Avg. price to grower ³											
Flue-cured (\$/lb.)	1.83	1.73	1.75	--	1.87	1.81	--	--	--	--	
Burley (\$/lb.)	1.92	1.86	1.91	1.76	--	1.92	1.92	1.90	1.85	1.74	
Domestic taxable removals											
Cigarettes (bil.)	484.7	471.4	457.9	40.2	40.5	39.6	29.1	31.2	36.3	--	
Large cigars (mil.) ⁴	3,166	3,552	3,721	325.6	316.7	288.4	299.4	245.8	282.1	--	

-- = Not available. 1. 1,000 short tons, raw value. Quarterly data shown at end of each quarter. 2. Net imports of green and processed coffee. 3. Crop year July-June for flue-cured, October-September for burley. 4. Includes imports of large cigars. *Information contacts: sugar and coffee, Fannye Jolly (202) 694-5249; tobacco, Tom Capehart (202) 694-5245*

World Agriculture

Table 23—World Supply & Utilization of Major Crops, Livestock & Products

	1990/91	1991/92	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98	1998/99 F	1999/2000 F
Wheat										
Area (hectares)	231.4	222.5	222.9	222.0	214.5	219.2	230.3	227.9	224.7	216.5
Production (metric tons)	588.0	542.9	562.4	558.8	524.0	538.5	582.8	609.3	588.7	584.2
Exports (metric tons) ¹	101.1	111.2	113.0	101.5	100.8	97.4	102.0	101.1	103.6	101.6
Consumption (metric tons) ²	561.9	555.5	550.3	561.7	547.3	548.7	575.9	585.2	591.9	589.0
Ending stocks (metric tons) ³	145.0	132.5	144.5	141.6	118.3	108.1	115.0	139.2	136.0	131.1
Coarse grains										
Area (hectares)	316.4	321.9	323.5	316.8	322.3	313.3	321.9	311.0	308.8	303.8
Production (metric tons)	828.8	810.4	871.5	798.8	871.2	802.9	908.3	882.8	890.4	876.5
Exports (metric tons) ¹	88.8	95.6	92.2	85.0	97.8	87.3	94.7	85.5	95.9	94.8
Consumption (metric tons) ²	817.2	809.7	843.7	838.7	857.4	842.3	877.3	875.4	872.7	874.8
Ending stocks (metric tons) ³	134.8	135.6	163.2	123.4	137.2	97.8	128.7	136.1	153.9	155.5
Rice, milled										
Area (hectares)	146.6	147.4	146.4	144.9	147.4	148.1	149.8	151.3	152.2	153.4
Production (metric tons)	352.1	354.7	355.7	355.4	364.5	371.4	380.4	386.7	391.7	395.9
Exports (metric tons) ¹	12.2	14.3	14.9	16.3	20.9	19.7	18.8	27.3	24.5	23.2
Consumption (metric tons) ²	347.4	356.7	357.7	358.2	366.6	371.4	379.5	383.3	389.0	394.6
Ending stocks (metric tons) ³	59.2	57.2	55.2	52.4	50.4	50.4	51.3	54.7	57.4	58.7
Total grains										
Area (hectares)	694.4	691.8	692.8	683.7	684.2	680.6	702.0	690.2	685.7	673.7
Production (metric tons)	1,768.9	1,708.0	1,789.6	1,713.0	1,759.7	1,712.8	1,871.5	1,878.8	1,870.8	1,856.6
Exports (metric tons) ¹	202.1	221.1	220.1	202.8	219.5	204.4	215.5	213.9	224.0	219.6
Consumption (metric tons) ²	1,726.5	1,721.9	1,751.7	1,758.6	1,771.3	1,762.4	1,832.7	1,843.9	1,853.6	1,858.4
Ending stocks (metric tons) ³	339.0	325.3	362.9	317.4	305.9	256.3	295.0	330.0	347.3	345.3
Oilseeds										
Crush (metric tons)	176.7	185.1	184.4	190.1	208.1	217.3	219.2	227.5	238.0	246.2
Production (metric tons)	215.7	224.3	227.5	229.4	261.9	258.4	262.0	287.0	293.6	296.9
Exports (metric tons)	33.4	37.6	38.2	38.7	44.1	44.3	49.6	53.8	54.6	57.1
Ending stocks (metric tons)	23.4	21.9	23.6	20.3	27.2	22.2	17.1	24.8	28.3	27.6
Meals										
Production (metric tons)	119.3	125.2	125.2	131.7	142.1	147.2	149.7	155.1	163.0	168.2
Exports (metric tons)	40.7	42.2	40.8	44.9	46.7	49.7	50.7	51.8	54.5	55.9
Oils										
Production (metric tons)	58.1	60.6	61.1	63.7	69.6	73.0	75.9	76.5	81.7	85.6
Exports (metric tons)	20.5	21.3	21.3	24.3	27.1	26.0	29.0	29.8	31.1	32.3
Cotton										
Area (hectares)	33.2	34.8	32.6	30.6	32.2	35.9	33.8	33.8	33.0	32.6
Production (bales)	87.1	95.7	82.5	77.1	85.9	93.1	89.6	91.6	84.5	87.4
Exports (bales)	29.6	28.5	25.5	26.8	28.4	27.8	26.8	26.7	23.6	26.1
Consumption (bales)	85.5	85.7	85.5	85.3	85.5	86.9	89.0	88.4	85.1	87.9
Ending stocks (bales)	27.8	37.6	35.4	27.6	29.9	35.8	38.2	40.8	41.7	41.2
	1991	1992	1993	1994	1995	1996	1997	1998	1999 F	2000 F
Red meat⁴										
Production (metric tons)	117.7	117.3	119.3	124.6	129.5	124.2	127.9	131.4	132.8	133.1
Consumption (metric tons)	116.1	115.7	118.3	123.6	127.8	121.4	125.1	128.6	130.6	131.3
Exports (metric tons) ¹	7.5	7.4	7.4	8.1	8.2	8.4	9.0	8.9	9.0	9.3
Poultry⁴										
Production (metric tons)	39.6	38.0	40.5	43.2	47.5	50.4	52.7	53.5	55.6	57.4
Consumption (metric tons)	38.4	37.0	39.4	42.0	47.0	49.7	51.9	52.4	54.1	56.0
Exports (metric tons) ¹	2.8	2.4	2.8	3.6	4.5	5.2	5.6	5.7	5.9	6.2
Dairy										
Milk production (metric tons) ⁵	377.6	378.4	377.6	378.4	380.7	379.8	381.2	383.8	386.5	--

-- = Not available. F = forecast. 1. Excludes intra-EU trade but includes intra-FSU trade. 2. Where stocks data are not available, consumption includes stock changes. 3. Stocks data are based on differing marketing years and do not represent levels at a given date. Data not available for all countries.

4. Calendar year data. 1990 data correspond with 1989/90, etc. 5. Data prior to 1989 no longer comparable.

Information contacts: Crops, Ed Allen (202) 694-5288; red meat and poultry, Leland Southard (202) 694-5187; dairy, LaVerne Williams (202) 694-5190

U.S. Agricultural Trade

Table 24—Prices of Principal U.S. Agricultural Trade Products

	Annual		1998		1999					
	1996	1997	1998	Nov	Jun	Jul	Aug	Sep	Oct	Nov
Export commodities										
Wheat, f.o.b. vessel, Gulf ports (\$/bu.)	5.63	4.35	3.44	3.57	3.01	2.75	2.99	3.08	2.92	2.96
Corn, f.o.b. vessel, Gulf ports (\$/bu.)	4.17	2.98	2.59	2.47	2.36	2.12	2.20	2.21	2.18	2.17
Grain sorghum, f.o.b. vessel, Gulf ports (\$/bu.)	3.90	2.89	2.54	2.37	2.22	1.94	2.12	2.02	1.96	2.02
Soybeans, f.o.b. vessel, Gulf ports (\$/bu.)	7.88	7.94	6.37	6.01	4.87	4.61	5.00	5.18	5.01	4.90
Soybean oil, Decatur (¢/lb.)	23.75	23.33	25.78	25.21	16.50	15.29	16.50	16.79	16.08	15.63
Soybean meal, Decatur, (\$/ton)	246.67	266.70	162.74	144.45	139.07	132.73	141.69	150.64	153.57	154.71
Cotton, 7-market avg. spot (¢/lb.)	77.93	69.62	67.04	64.98	53.74	49.23	49.72	48.39	49.41	48.12
Tobacco, avg. price at auction (¢/lb.)	183.20	182.74	179.77	181.01	--	149.96	163.99	175.03	181.47	176.99
Rice, f.o.b., mill, Houston (\$/cwt)	19.64	20.88	18.95	18.50	17.05	17.00	16.48	16.00	16.00	15.80
Inedible tallow, Chicago (¢/lb.)	20.13	20.75	17.67	16.90	11.49	11.50	11.69	14.38	16.50	14.83
Import commodities										
Coffee, N.Y. spot (\$/lb.)	1.29	2.05	1.39	1.23	1.09	0.97	0.93	0.86	0.95	1.14
Rubber, N.Y. spot (¢/lb.)	72.88	55.40	40.57	39.99	34.64	33.60	33.63	34.32	37.58	42.63
Cocoa beans, N.Y. (\$/lb.)	0.62	0.69	0.72	0.67	0.48	0.46	0.43	0.43	0.42	0.38

Information contact: Jenny Gonzales (202) 694-5296, Mae Dean Johnson (202) 694-5299, Mary Teymourian (202) 694-5173 for coffee, rubber, cocoa beans, and tobacco.

Table 25—Trade Balance

	Fiscal Year			1998		1999				
	1998	1999	2000 P	Oct	May	Jun	Jul	Aug	Sep	Oct
\$ million										
Exports										
Agricultural	53,730	49,102	49,000	4,859	3,649	3,806	3,718	3,949	3,931	4,520
Nonagricultural	585,826	586,652	--	52,274	48,401	49,665	45,341	49,348	50,418	52,813
Total ¹	639,556	635,754	--	57,133	52,050	53,471	49,059	53,297	54,349	57,333
Imports										
Agricultural	37,007	37,447	38,000	3,120	3,225	3,285	2,899	2,990	2,883	3,089
Nonagricultural	858,893	938,811	--	79,979	76,927	84,204	83,429	85,723	86,377	90,658
Total ²	895,900	976,258	--	83,099	80,152	87,489	86,328	88,713	89,260	93,747
Trade Balance										
Agricultural	16,723	11,655	11,000	1,739	424	521	819	959	1,048	1,431
Nonagricultural	-273,067	-352,159	--	-27,705	-28,526	-34,539	-38,088	-36,375	-35,959	-37,845
Total	-256,344	-340,504	--	-25,966	-28,102	-34,018	-37,269	-35,416	-34,911	-36,414

P = Projected. -- = Not available. Fiscal year (Oct. 1-Sep. 30). 1. Domestic exports including Department of Defense shipments (F.A.S Value). 2. Imports for consumption (customs value). Information contact: Mary Fant (202) 694-5272

Table 26—Indexes of Real Trade-Weighted Dollar Exchange Rates¹

	Annual			1998			1999			
	1996	1997	1998	Jul	Feb	Mar	Apr	May	Jun	Jul
	<i>1990=100</i>									
Total U.S. trade	100.8	111.9	115.1	118.1	109.4	109.4	109.1	108.9	108.4	108.1
Agricultural trade										
U.S. markets	101.0	109.6	115.5	117.5	110.9	111.7	111.1	111.0	110.6	110.4
U.S. competitors	98.7	109.1	113.9	117.1	111.7	111.1	110.4	109.7	109.4	109.1
High-value products										
U.S. markets	100.4	108.2	111.9	114.6	108.3	109.5	108.6	108.3	108.2	108.2
U.S. competitors	100.1	110.9	114.6	117.2	110.8	110.0	109.5	108.9	108.7	108.3
Corn										
U.S. markets	96.4	107.1	113.3	117.8	106.5	108.3	108.2	108.8	108.1	107.8
U.S. competitors	90.1	97.4	100.2	102.1	97.4	97.1	97.8	98.1	97.3	97.2
Soybeans										
U.S. markets	96.0	107.9	113.9	117.2	105.9	106.0	105.4	105.3	104.5	103.8
U.S. competitors	80.8	82.2	84.9	86.3	105.8	105.4	101.3	101.2	103.6	105.0
Wheat										
U.S. markets	100.7	105.4	112.2	112.7	112.6	114.0	115.5	116.7	117.6	119.1
U.S. competitors	102.1	109.8	116.0	119.7	115.8	116.0	115.0	113.7	113.7	114.0
Vegetables										
U.S. markets	105.6	112.4	117.8	120.0	115.8	116.9	115.6	114.7	114.8	115.3
U.S. competitors	100.5	112.0	114.1	116.0	107.9	106.9	106.9	106.5	105.9	105.4
Red meats										
U.S. markets	93.3	100.4	109.0	113.7	101.5	103.2	102.5	103.1	102.8	102.5
U.S. competitors	98.0	107.9	112.8	116.2	111.1	111.0	110.7	110.0	110.3	110.1
Fruits & fruit juices										
U.S. markets	101.3	111.3	114.1	117.1	110.9	112.2	111.4	111.1	111.0	111.3
U.S. competitors	98.2	107.2	111.7	114.3	111.7	111.1	110.0	109.6	109.7	109.6
Cotton										
U.S. markets	95.5	105.7	123.8	128.0	114.0	115.6	115.3	114.8	113.1	112.9
U.S. competitors	101.6	103.0	106.8	108.8	107.2	108.1	109.4	109.0	110.1	111.0
Poultry										
U.S. markets	102.8	111.9	109.2	106.5	117.0	117.6	117.7	116.7	116.3	115.6
U.S. competitors	95.7	107.3	109.9	111.8	110.8	110.0	108.9	108.4	108.5	108.4

1. Real indexes adjust nominal exchange rates to avoid the distortion caused by different levels of inflation among countries. A higher value means the dollar has appreciated. The "total U.S. trade" index uses the Federal Reserve Board index of trade-weighted value of the U.S. dollar against 10 major countries. Weights are based on relative importance of major U.S. customers and competitors in world markets. Indexes are subject to revision for up to one year due to delayed reporting by some countries. High-value products conform to FAS's definition for consumer-oriented agricultural products. Data are available at <http://mann77.mannlib.cornell.edu/data-sets/international/88021/>. Information contact: Andy Jerardo (202) 694-5323

Note: The indices have recently been revised to reflect a rebasing of the Russian ruble and to correct errors in the CPI data for Hong Kong and Taiwan. The complete corrected series is online at the Mann Library URL.

Table 27—U.S. Agricultural Exports & Imports

	Fiscal Year			Oct		Fiscal Year			Oct	
	1998	1999	2000 P	1998	1999	1998	1999	2000 P	1998	1999
	1,000 units					\$ million				
Exports										
Animals, live	--	--	--	--	--	538	509	--	89	111
Meats and preps., excl. poultry (mt) ¹	2,064	2,061	1,700	173	193	4,507	4,460	4,500	363	433
Dairy products	--	--	--	--	--	925	897	900	78	91
Poultry meats (mt)	2,663	2,377	2,500	176	237	2,347	1,743	1,700	160	170
Fats, oils, and greases (mt)	1,365	1,395	1,400	122	104	655	561	--	54	40
Hides and skins, incl. furskins	--	--	--	--	--	1,358	1,108	1,100	96	97
Cattle hides, whole (no.)	18,992	17,845	--	1,609	1,615	969	844	--	77	79
Mink pelts (no.)	2,990	4,172	--	78	126	83	98	--	3	4
Grains and feeds (mt) ²	87,289	104,576	--	9,103	9,193	13,961	14,272	13,400	1,308	1,224
Wheat (mt) ³	25,791	28,806	27,900	2,970	2,608	3,759	3,648	3,700	359	319
Wheat flour (mt)	465	958	1,000	75	92	117	177	--	14	14
Rice (mt)	3,310	3,076	3,100	534	328	1,132	1,010	900	149	98
Feed grains, incl. products (mt) ⁴	44,564	58,398	53,300	4,371	5,026	5,187	5,821	4,800	433	466
Feeds and fodders (mt)	11,704	11,800	11,600	990	1,004	2,421	2,252	2,300	214	200
Other grain products (mt)	1,455	1,538	--	163	136	1,345	1,363	--	139	128
Fruits, nuts, and preps. (mt)	3,633	3,439	--	363	286	3,977	3,805	4,600	448	339
Fruit juices, incl.										
froz. (1,000 hectoliters)	10,658	12,317	--	825	983	653	735	--	50	59
Vegetables and preps.	--	--	--	--	--	4,168	4,245	2,800	379	387
Tobacco, unmanufactured (mt)	208	205	200	8	14	1,448	1,376	1,300	81	116
Cotton, excl. linters (mt) ⁵	1,552	884	1,300	58	36	2,517	1,309	1,500	90	48
Seeds (mt)	816	579	--	56	37	827	800	900	55	59
Sugar, cane or beat (mt)	123	158	--	27	14	48	56	--	9	5
Oilseeds and products (mt)	36,074	33,569	34,600	4,771	3,961	10,984	8,606	8,600	1,165	902
Oilseeds (mt)	--	--	--	--	--	6,818	5,690	--	872	619
Soybeans (mt)	23,394	22,974	23,600	3,686	2,913	6,117	4,748	4,700	778	559
Protein meal (mt)	8,666	6,726	--	685	706	1,975	1,101	--	113	129
Vegetable oils (mt)	3,049	2,642	--	237	248	2,191	1,815	--	179	154
Essential oils (mt)	46	47	--	3	4	533	507	--	40	52
Other	--	--	--	--	--	4,284	4,112	--	393	388
Total	--	--	--	--	--	53,730	49,102	49,000	4,859	4,520
Imports										
Animals, live	--	--	--	--	--	1,670	1,439	1,500	167	162
Meats and preps., excl. poultry (mt)	1,230	1,398	1,500	108	128	2,718	3,088	3,200	241	297
Beef and veal (mt)	857	943	--	68	85	1,761	2,047	--	148	198
Pork (mt)	271	337	--	30	34	686	721	--	66	72
Dairy products	--	--	--	--	--	1,368	1,572	1,500	146	145
Poultry and products	--	--	--	--	--	207	201	--	16	16
Fats, oils, and greases (mt)	80	90	--	6	12	59	63	--	5	7
Hides and skins, incl. furskins (mt)	--	--	--	--	--	184	146	--	9	10
Wool, unmanufactured (mt)	45	29	--	4	2	151	75	--	13	6
Grains and feeds	--	--	--	--	--	2,919	2,943	2,800	289	288
Fruits, nuts, and preps.,										
excl. juices (mt) ⁶	7,581	8,171	8,300	509	614	3,982	4,619	5,500	279	309
Bananas and plantains (mt)	4,175	4,418	4,400	326	401	1,214	1,212	1,200	90	96
Fruit juices (1,000 hectoliters)	26,577	31,655	33,000	2,158	2,341	669	772	--	52	55
Vegetables and preps.	--	--	--	--	--	4,249	4,527	4,600	315	335
Tobacco, unmanufactured (mt)	241	217	200	18	11	822	742	700	78	25
Cotton, unmanufactured (mt)	10	144	--	1	2	11	150	--	0	1
Seeds (mt)	257	357	--	12	13	422	457	--	28	30
Nursery stock and cut flowers	--	--	--	--	--	1,082	1,076	1,100	88	98
Sugar, cane or beet (mt)	2,170	1,692	--	134	68	758	606	--	53	24
Oilseeds and products (mt)	4,314	3,899	3,900	306	294	2,243	2,022	1,900	176	145
Oilseeds (mt)	1,028	1,000	--	51	56	371	326	--	19	18
Protein meal (mt)	1,277	1,131	--	94	97	188	147	--	12	12
Vegetable oils (mt)	2,010	1,769	--	161	142	1,684	1,549	--	145	115
Beverages, excl. fruit										
juices (1,000 hectoliters)	--	--	--	--	--	3,705	4,258	--	406	447
Coffee, tea, cocoa, spices (mt)	2,369	2,520	--	189	194	6,056	5,306	--	446	380
Coffee, incl. products (mt)	1,155	1,294	1,300	97	95	3,587	2,967	3,000	226	187
Cocoa beans and products (mt)	875	865	900	63	67	1,701	1,531	1,600	138	119
Rubber and allied gums (mt)	1,162	1,148	1,200	107	130	1,027	739	800	77	77
Other	--	--	--	--	--	2,703	2,643	--	237	231
Total	--	--	--	--	--	37,007	37,447	38,000	3,120	3,089

P=Projection. -- = Not available. Projections are fiscal years (October 1 through September 30) and are from Outlook for U.S. Agricultural Exports.

1998 and 1999 data are from *Foreign Agricultural Trade of the U.S.* 1. Projection includes beef, pork, and variety meat. 2. Projection includes pulses. 3. Value projection includes wheat flour. 4. Projection excludes grain products. 5. Projection includes linters. 6. Value projection includes juice.

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Table 28—U.S. Agricultural Exports by Region

Region & country	Fiscal year			1998		1999				
	1998	1999	2000 F	Oct	May	Jun	Jul	Aug	Sep	Oct
	<i>\$ million</i>									
Western Europe	8,859	7,498	7,400	846	526	453	418	592	494	617
European Union ¹	8,522	6,928	6,900	807	498	414	382	404	398	600
Belgium-Luxembourg	666	602	--	79	62	35	32	38	39	51
France	538	380	--	60	22	20	24	22	20	30
Germany	1,294	1,045	--	118	80	49	56	57	61	78
Italy	729	573	--	81	43	35	19	36	22	36
Netherlands	1,792	1,575	--	114	121	94	70	74	92	132
United Kingdom	1,300	1,123	--	135	88	89	90	84	80	106
Portugal	186	131	--	9	11	4	5	10	9	12
Spain, incl. Canary Islands	1,132	772	--	132	31	45	37	37	31	83
Other Western Europe	336	570	500	39	29	39	36	188	96	17
Switzerland	236	456	--	29	23	21	29	171	88	8
Eastern Europe	320	190	200	16	13	17	15	9	9	17
Poland	139	73	--	6	6	5	6	5	5	3
Former Yugoslavia	97	47	--	6	1	4	4	2	2	10
Romania	31	18	--	1	2	1	0	0	0	1
Newly Independent States	1,456	801	700	46	86	85	121	102	88	97
Russia	1,103	461	400	18	68	57	61	71	48	66
Asia ²	21,992	20,412	18,300	1,997	1,446	1,659	1,537	1,648	1,663	1,858
West Asia (Mideast)	2,286	1,977	2,100	227	130	160	196	162	127	241
Turkey	658	448	500	54	36	50	46	19	13	65
Iraq	131	9	--	--	--	0	--	--	--	--
Israel, incl. Gaza and W. Bank	389	417	--	52	26	37	51	24	29	35
Saudi Arabia	535	468	500	58	26	46	31	43	30	59
South Asia	626	500	500	82	11	32	29	32	47	58
Bangladesh	114	165	--	30	2	9	8	15	21	6
India	163	190	--	20	5	18	12	8	17	10
Pakistan	275	89	--	26	4	3	4	2	1	37
China	1,514	1,002	1,000	262	42	34	35	73	150	98
Japan	9,469	8,931	9,000	701	695	730	636	698	704	741
Southeast Asia	2,288	2,204	2,100	204	169	180	168	195	174	237
Indonesia	529	492	500	50	40	59	33	41	36	56
Philippines	751	730	700	56	59	68	61	69	68	67
Other East Asia	5,808	5,799	5,800	522	398	524	473	487	461	482
Korea, Rep.	2,258	2,479	2,600	205	161	225	228	220	191	213
Hong Kong	1,568	1,264	1,200	129	87	104	88	97	114	112
Taiwan	1,975	2,046	2,000	188	150	194	156	169	156	157
Africa	2,174	2,108	2,200	184	142	180	178	171	158	206
North Africa	1,475	1,419	1,500	119	96	98	123	114	99	150
Morocco	139	161	--	12	10	9	16	17	7	12
Algeria	281	220	--	23	8	12	22	30	19	8
Egypt	939	957	1,000	83	70	73	79	61	68	124
Sub-Saharan	699	689	700	65	46	82	55	56	59	57
Nigeria	140	176	--	10	21	19	9	17	17	13
S. Africa	193	165	--	20	11	18	17	13	13	20
Latin America and Caribbean	11,362	10,501	10,600	1,113	753	743	805	799	851	955
Brazil	566	369	300	110	17	16	22	19	20	18
Caribbean Islands	1,487	1,453	--	148	115	110	109	113	106	146
Central America	1,137	1,209	--	137	79	83	79	87	82	97
Colombia	606	467	--	39	37	48	34	32	28	36
Mexico	5,956	5,675	5,900	539	421	393	457	449	521	566
Peru	314	347	--	39	25	30	31	23	24	19
Venezuela	516	457	400	45	28	33	29	33	29	31
Canada	7,022	6,957	7,000	601	616	615	586	556	592	657
Oceania	545	499	500	56	39	43	37	50	36	47
Total	53,730	49,102	49,000	4,859	3,649	3,806	3,718	3,949	3,931	4,520

F = Forecast. -- = Not available. Based on fiscal year beginning October 1 and ending September 30. 1. Austria, Finland, and Sweden are included in the European Union. 2. Asia forecasts exclude West Asia (Mideast). NOTE: Adjusted for shipments through Canada for 1997 and 1998 through December 1998, but shipments are not distributed by country as previously for 1999. Information contact: Mary Fant (202) 694-5272

Farm Income

Table 29—Value Added to the U.S. Economy by the Agricultural Sector

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	<i>\$ billion</i>									
Final crop output	81.0	89.0	82.3	100.4	95.8	115.4	112.1	102.0	95.0	93.5
Food grains	7.3	8.5	8.2	9.5	10.4	10.7	10.1	8.7	7.4	6.7
Feed crops	19.3	20.1	20.2	20.3	24.5	27.2	27.1	22.9	20.6	19.5
Cotton	5.2	5.2	5.2	6.7	6.9	7.0	6.3	6.0	5.0	5.3
Oil crops	12.7	13.3	13.2	14.7	15.5	16.3	19.7	17.2	14.6	14.3
Tobacco	2.9	3.0	2.9	2.7	2.5	2.8	2.9	3.0	2.2	1.8
Fruits and tree nuts	9.9	10.2	10.3	10.3	11.1	11.9	13.1	11.7	12.5	12.6
Vegetables	11.6	11.8	13.7	14.2	15.0	14.4	15.0	15.3	15.1	15.7
All other crops	13.1	13.7	13.7	14.7	15.0	15.8	16.9	17.3	17.8	17.5
Home consumption	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Value of inventory adjustment ¹	-1.2	3.2	-5.3	7.2	-5.3	9.1	0.9	-0.4	-0.2	0.0
Final animal output	87.3	87.1	92.0	89.7	87.7	92.1	96.5	94.3	96.0	96.8
Meat animals	50.1	47.7	51.0	46.7	44.9	44.2	49.7	43.6	46.9	47.7
Dairy products	18.0	19.7	19.3	20.0	19.9	22.8	20.9	24.3	23.4	21.4
Poultry and eggs	15.2	15.5	17.3	18.5	19.1	22.4	22.2	22.8	22.8	23.6
Miscellaneous livestock	2.5	2.6	2.9	3.1	3.3	3.6	3.7	3.8	3.8	3.8
Home consumption	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.4
Value of inventory adjustment ¹	1.0	1.0	1.1	1.1	0.2	-1.1	-0.4	-0.6	-1.2	-0.1
Services and forestry	15.4	15.3	17.1	18.1	19.9	20.8	22.5	24.6	25.4	25.2
Machine hire and customwork	1.8	1.8	1.9	2.1	1.9	2.1	2.6	2.3	2.3	2.4
Forest products sold	1.8	2.2	2.5	2.7	2.8	2.6	2.9	2.8	2.9	2.9
Other farm income	4.7	4.1	4.6	4.3	5.8	6.2	6.9	8.7	9.2	8.8
Gross imputed rental value of farm dwellings	7.2	7.2	8.1	9.0	9.4	9.9	10.1	10.8	11.0	11.1
Final agricultural sector output²	183.7	191.4	191.4	208.2	203.5	228.4	231.2	220.8	216.4	215.5
<i>Minus</i> Intermediate consumption outlays:	94.6	93.4	100.7	104.9	109.7	113.2	120.9	118.7	119.5	121.3
Farm origin	38.6	38.6	41.3	41.3	41.8	42.7	46.9	44.9	45.2	44.6
Feed purchased	19.3	20.1	21.4	22.6	23.8	25.2	26.3	25.0	24.1	23.8
Livestock and poultry purchased	14.1	13.6	14.7	13.3	12.5	11.3	13.8	12.7	13.9	13.5
Seed purchased	5.1	4.9	5.2	5.4	5.5	6.2	6.7	7.2	7.2	7.2
Manufactured inputs	23.2	22.7	23.1	24.4	26.2	28.6	29.2	28.3	29.2	30.2
Fertilizers and lime	8.7	8.3	8.4	9.2	10.0	10.9	10.9	10.7	10.4	10.5
Pesticides	6.3	6.5	6.7	7.2	7.7	8.5	9.0	9.1	9.1	9.1
Petroleum fuel and oils	5.6	5.3	5.3	5.3	5.4	6.0	6.2	5.6	6.4	7.4
Electricity	2.6	2.6	2.7	2.7	3.0	3.2	3.0	2.9	3.3	3.2
Other intermediate expenses	32.8	32.1	36.2	39.2	41.7	41.8	44.9	45.5	45.1	46.5
Repair and maintenance of capital items	8.6	8.5	9.2	9.1	9.5	10.3	10.4	10.4	10.3	10.5
Machine hire and customwork	3.5	3.8	4.4	4.8	4.8	4.7	4.9	5.5	5.5	5.7
Marketing, storage, and transportation	4.7	4.5	5.6	6.8	7.2	6.9	7.1	6.7	6.8	7.1
Contract labor	1.6	1.7	1.8	1.8	2.0	2.1	2.6	2.4	2.5	2.5
Miscellaneous expenses	14.3	13.6	15.2	16.7	18.3	17.8	19.8	20.5	20.0	20.7
<i>Plus</i> Net government transactions:	2.1	2.7	6.9	1.1	0.2	0.2	0.2	4.6	15.3	9.6
+ Direct government payments	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	22.7	17.2
- Motor vehicle registration and licensing fees	0.3	0.4	0.4	0.4	0.5	0.4	0.5	0.5	0.5	0.5
- Property taxes	5.8	6.1	6.2	6.3	6.6	6.7	6.9	7.2	6.9	7.0
Gross value added	91.2	100.6	97.5	104.5	94.0	115.4	110.4	106.7	112.2	103.8
<i>Minus</i> Capital consumption	18.2	18.3	18.4	18.6	18.9	19.2	19.3	19.4	19.2	18.9
Net value added²	73.0	82.3	79.2	85.8	75.1	96.2	91.1	87.2	92.9	84.9
<i>Minus</i> Factor payments:	34.4	34.4	34.6	36.6	37.9	41.3	42.5	43.1	44.9	44.5
Employee compensation (total hired labor)	12.3	12.3	13.2	13.5	14.3	15.3	16.0	16.9	17.7	17.9
Net rent received by nonoperator landlords	9.9	11.1	10.7	11.5	11.0	13.0	12.9	12.0	13.6	12.9
Real estate and non-real estate interest	12.1	11.0	10.6	11.5	12.6	13.0	13.5	14.2	13.5	13.7
Net farm income²	38.7	47.9	44.5	49.2	37.2	54.9	48.6	44.1	48.1	40.4

Values in last two columns are preliminary or forecast. 1. A positive value of inventory change represents current-year production not sold by December 1. A negative value is an offset to production from prior years included in current-year sales. 2. Final sector output is the gross value of commodities and services produced within a year. Net value added is the sector's contribution to the National economy and is the sum of income from production earned by all factors of production. Net farm income is farm operators' share of income from the sector's production activities. The concept presented is consistent with that employed by the Organization for Economic Cooperation and Development. *Information contact: Roger Strickland (202)694-5592 or rogers@econ.ag.gov*

Table 30—Farm Income Statistics

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>\$ billion</i>										
Cash income statement:										
1. Cash receipts	167.9	171.3	177.9	181.3	188.1	199.1	207.6	196.8	191.9	189.9
Crops ¹	82.1	85.7	87.4	93.1	101.0	106.2	111.1	102.2	95.1	93.3
2. Direct Government payments	8.2	9.2	13.4	7.9	7.3	7.3	7.5	12.2	22.7	17.2
3. Farm-related income ²	8.3	8.1	9.0	9.1	10.5	11.0	12.4	13.8	14.4	14.1
4. Gross cash income (1+2+3)	184.3	188.6	200.3	198.2	205.8	217.4	227.5	222.8	229.1	221.1
5. Cash expenses ³	134.0	133.3	141.0	147.1	153.2	159.9	169.0	167.8	170.0	171.5
6. Net cash income (4-5)	50.4	55.2	59.3	51.1	52.6	57.5	58.5	54.9	59.1	49.7
Farm income statement:										
7. Gross cash income (4)	184.3	188.6	200.3	198.2	205.8	217.4	227.5	222.8	229.1	221.1
8. Noncash income ⁴	7.8	7.8	8.7	9.6	9.9	10.3	10.6	11.3	11.5	11.6
9. Value of inventory adjustment	-0.2	4.2	-4.2	8.3	-5.0	8.0	0.5	-1.0	-1.4	-0.1
10. Gross farm income (7+8+9)	191.9	200.5	204.8	216.1	210.7	235.7	238.7	233.1	239.1	232.7
11. Total production expenses	153.3	152.6	160.2	166.8	173.5	180.8	190.0	189.0	191.1	192.3
12. Net farm income (10-11)	38.7	47.9	44.5	49.2	37.2	54.9	48.6	44.1	48.1	40.4

Values for last 2 years are preliminary or forecast. Numbers in parentheses indicate the combination of items required to calculate an item. Totals may not add due to rounding. 1. Includes commodities placed under CCC loans and profits made on loans redeemed. 2. Income from custom labor, machine hire, recreational activities, forest product sales, and other farm sources. 3. Excludes depreciation and perquisites to hired labor. Excludes farm operator dwellings. 4. Value of farm products consumed on farms where produced plus the imputed rental value of farm dwellings.

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Table 31—Average Income to Farm Operator Households¹

	1992	1993	1994	1995	1996	1997	1998	1999	2000
<i>\$ per farm</i>									
Net cash farm business income ²	11,320	11,248	11,389	11,218	13,502	12,676	14,357	--	--
Less depreciation ³	5,187	6,219	6,466	6,795	6,906	6,578	7,409	--	--
Less wages paid to operator ⁴	216	454	425	522	531	513	637	--	--
Less farmland rental income ⁵	360	534	701	769	672	568	543	--	--
Less adjusted farm business income due to other household(s) ⁶	961	872	815	649	1,094	1,505	1,332	--	--
<i>\$ per farm operator household</i>									
Equals adjusted farm business income	4,596	3,168	2,981	2,484	4,300	3,513	4,436	--	--
Plus wages paid to operator	216	454	425	522	531	513	637	--	--
Plus net income from farmland rental ⁷	360	--	--	1,053	1,178	945	868	--	--
Equals farm self-employment income	5,172	3,623	3,407	4,059	6,009	4,971	5,941	--	--
Plus other farm-related earnings ⁸	2,008	1,192	970	661	1,898	1,234	1,165	--	--
Equals earnings of the operator household from farming activities	7,180	4,815	4,376	4,720	7,906	6,205	7,106	6,469	2,975
Plus earnings of the operator household from off-farm sources ⁹	35,731	35,408	38,092	39,671	42,455	46,358	52,628	54,443	56,375
Equals average farm operator household income	42,911	40,223	42,469	44,392	50,361	52,562	59,734	60,912	59,350
<i>\$ per U.S. household</i>									
U.S. average household income ¹⁰	38,840	41,428	43,133	44,938	47,123	49,692	51,855	--	--
<i>Percent</i>									
Average farm operator household income as percent of U.S. average household income	110.5	97.1	98.5	98.8	106.9	105.8	115.2	--	--
Average operator household earnings from farming activities as percent of average operator household income	16.7	12.0	10.3	10.6	15.7	11.8	11.9	--	--

-- = Not available. F = forecast. 1. This table derives farm operator household income estimates from the Agricultural Resource Management Study (ARMS) that are consistent with Current Population Survey (CPS) methodology. The CPS, conducted by the Bureau of the Census, is the source of official U.S. household income statistics. The CPS defines income to include any income received as cash. The CPS definition departs from a strictly cash concept by including depreciation as an expense that farm operators and other self-employed people subtract from gross receipts when reporting net cash income. 2. A component of farm-sector income. Excludes income of contractors and landlords as well as the income of farms organized as nonfamily corporations or cooperatives, and farms run by a hired manager. Includes income of farms organized as proprietorships, partnerships, and family corporations. 3. Consistent with the CPS definition of self-employed income, reported depreciation expenses are subtracted from net cash farm income. The ARMS collects data on farm business depreciation used for tax purposes. 4. Wages paid to the operator are excluded because they are not shared among other households that have claims on farm business income. These wages are added to the operator household's adjusted farm business income to obtain farm self-employment income. 5. Gross rental income is excluded because net rental income from farm operation is added below to income received by the household. 6. More than one household may have a claim on the income of a farm business. On average, 1.1 households share the income of a farm business. 7. Includes net rental income from the farm business. Also includes net rental income from farmland held by household members that is not part of the farm business. In 1991 and 1992, gross rental income from the farm business was used because net rental income data were not collected. In 1993 and 1994, net rental income data were collected as part of off-farm income. 1994, net rental income data were collected as part of off-farm income. 8. Wages paid to other operator household members by the farm business, and net income from a farm business other than the one surveyed. In 1996, also includes the value of commodities provided to household members for farm work. 9. Wages, salaries, net income from nonfarm businesses, interest, dividends, transfer payments, etc. In 1993 and 1994, also includes net rental income from farmland. 10. From the CPS. Sources: U.S. Department of Agriculture, Economic Research Service, 1992, 1993, 1994, and 1995 Farm Costs and Returns Survey (FCRS), and 1996 and 1997 Agricultural Resource Management Study for farm operator household data. U.S. Department of Commerce, Bureau of the Census Current Population Survey (PCS), for average household income.

Information contact: Bob Hoppe (202) 694-5572 or rhoppe@econ.ag.gov

Table 32—Balance Sheet of the U.S. Farming Sector

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	<i>\$ billion</i>									
Farm assets	844.2	868.3	910.2	935.5	966.7	1,003.9	1,051.6	1,064.3	1,067.2	1,072.8
Real estate	624.8	640.8	677.6	704.1	740.5	769.5	808.4	822.8	831.1	835.2
Livestock and poultry ¹	68.1	71.0	72.8	67.9	57.8	60.3	67.1	62.0	60.8	60.7
Machinery and motor vehicles	85.9	85.4	86.5	87.5	88.5	88.9	89.0	88.6	86.9	86.3
Crops stored ^{2,3}	22.2	24.2	23.3	23.3	27.4	31.7	32.2	30.1	30.0	30.0
Purchased inputs	2.6	3.9	3.8	5.0	3.4	4.4	5.1	5.3	5.5	5.6
Financial assets	40.5	43.1	46.3	47.6	49.1	49.0	49.7	55.4	53.0	55.0
Total farm debt	139.2	139.1	142.0	146.8	150.8	156.1	165.4	172.9	172.8	172.5
Real estate debt ³	74.9	75.4	76.0	77.7	79.3	81.7	85.4	89.6	90.3	90.8
Non-real estate debt ⁴	64.3	63.6	65.9	69.1	71.5	74.4	80.1	83.2	82.5	81.7
Total farm equity	705.0	729.3	768.3	788.7	815.9	847.8	886.2	891.4	894.4	900.3
	<i>Percent</i>									
Selected ratios										
Debt to equity	19.8	19.1	18.5	18.6	18.5	18.4	18.7	19.4	19.3	19.2
Debt to assets	16.5	16.0	15.6	15.7	15.6	15.6	15.7	16.2	16.2	16.1

Values in the last two columns are preliminary or forecast. 1. As of December 31. 2. Non-CCC crops held on farms plus value above loan rates for crops held under CCC. 3. Includes CCC storage and drying facilities loans, but excludes debt on operator dwellings. 4. Excludes debt for nonfarm purposes. *Information contact: Ken Erickson (202) 694-5565 or erickson@econ.ag.gov*

Table 33—Cash Receipts from Farming

	Annual			1998			1999			
	1996	1997	1998	Sep	Apr	May	Jun	Jul	Aug	Sep
	<i>\$ million</i>									
Commodity sales ¹	199,138	207,611	196,761	16,292	12,887	13,001	14,289	14,324	15,243	16,498
Livestock and products	92,956	96,535	94,539	7,923	6,788	7,177	8,057	8,034	8,582	8,386
Meat animals	44,154	49,682	43,604	3,424	3,075	3,438	4,259	3,412	4,581	4,224
Dairy products	22,785	20,940	24,312	2,092	1,772	1,857	1,788	1,836	2,020	2,099
Poultry and eggs	22,432	22,234	22,806	2,029	1,780	1,716	1,807	1,808	1,773	1,686
Other	3,585	3,679	3,816	378	161	167	203	978	209	377
Crops	106,182	111,076	102,222	8,369	6,099	5,823	6,232	6,290	6,661	8,112
Food grains	10,719	10,137	8,734	686	414	340	806	1,182	794	745
Feed crops	27,185	27,101	22,927	1,403	921	1,067	1,489	1,127	1,351	1,342
Cotton (lint and seed)	6,983	6,346	6,013	197	110	110	90	53	97	178
Tobacco	2,795	2,874	2,989	591	5	0	0	10	474	451
Oil-bearing crops	16,344	19,673	17,198	1,079	696	605	694	520	437	968
Vegetables and melons	14,439	14,961	15,337	1,570	1,337	1,573	1,424	1,440	1,642	1,571
Fruits and tree nuts	11,928	13,074	11,727	1,293	666	657	807	980	910	1,306
Other	15,789	16,909	17,297	1,550	1,949	1,472	923	977	954	1,550
Government payments	7,340	7,495	12,220	1,702	566	228	2,365	677	1,033	546
Total	206,478	215,107	208,981	17,994	13,453	13,228	16,654	15,000	16,276	17,044

Annual values for the most recent year are preliminary. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period. *Information contacts: Larry Traub (202) 694-5593 or ltraub@econ.ag.gov and Cheryl Steele (202) 694-5591 or cherylj@econ.ag.gov. To receive current monthly cash receipts via e-mail contact Larry Traub.*

Table 34—Cash Receipts from Farm Marketings, by State

Region and State	Livestock and products				Crops ¹				Total ¹			
	1997	1998	Aug 1999	Sep 1999	1997	1998	Aug 1999	Sep 1999	1997	1998	Aug 1999	Sep 1999
	\$ million ²											
North Atlantic												
Maine	276	282	23	23	213	224	28	22	489	506	50	44
New Hampshire	68	69	5	5	84	82	9	11	153	151	14	16
Vermont	414	472	39	39	85	84	5	7	500	557	44	46
Massachusetts	114	112	9	9	417	395	35	72	531	507	44	81
Rhode Island	9	9	1	1	54	56	4	6	63	65	4	6
Connecticut	223	228	18	18	278	281	10	63	501	509	27	81
New York	1,828	2,092	164	182	1,007	1,054	104	134	2,836	3,146	268	317
New Jersey	168	178	11	17	626	650	79	75	794	828	89	92
Pennsylvania	2,808	2,914	235	254	1,324	1,261	96	130	4,132	4,175	330	384
North Central												
Ohio	1,875	1,848	155	159	3,361	3,124	176	179	5,237	4,973	332	338
Indiana	1,928	1,639	115	132	3,838	3,245	138	160	5,766	4,885	254	292
Illinois	1,928	1,575	130	123	7,055	6,167	327	246	8,984	7,742	457	369
Michigan	1,365	1,323	108	120	2,234	2,158	138	157	3,598	3,480	246	277
Wisconsin	4,066	4,492	437	432	1,721	1,701	112	130	5,787	6,193	549	562
Minnesota	3,992	3,755	322	304	4,006	3,925	177	271	7,998	7,680	498	575
Iowa	5,613	4,778	367	399	7,331	6,217	238	264	12,944	10,994	605	662
Missouri	2,771	2,420	218	243	2,631	2,262	86	105	5,402	4,682	304	348
North Dakota	598	549	66	62	2,668	2,455	158	278	3,267	3,004	224	339
South Dakota	1,781	1,557	160	175	2,401	1,951	104	104	4,182	3,508	264	279
Nebraska	5,508	5,124	527	467	4,295	3,725	198	232	9,803	8,848	726	699
Kansas	4,936	4,537	489	424	3,609	3,247	168	136	8,544	7,784	657	560
Southern												
Delaware	579	609	42	44	176	164	25	17	754	774	67	61
Maryland	928	949	66	73	607	571	43	61	1,535	1,520	109	133
Virginia	1,542	1,561	130	134	864	768	78	97	2,406	2,328	207	231
West Virginia	328	336	28	31	69	69	8	6	397	405	37	36
North Carolina	4,723	3,917	276	321	3,507	3,247	399	463	8,230	7,164	675	784
South Carolina	802	763	65	64	885	748	105	93	1,687	1,511	170	158
Georgia	3,402	3,408	261	266	2,350	2,047	118	222	5,752	5,454	379	488
Florida	1,400	1,407	149	143	5,116	5,355	232	188	6,516	6,762	381	331
Kentucky	1,972	2,134	164	254	1,571	1,787	36	67	3,543	3,920	200	321
Tennessee	1,028	1,038	82	101	1,245	1,177	50	84	2,273	2,216	132	185
Alabama	2,428	2,587	210	207	788	696	24	58	3,216	3,283	234	265
Mississippi	2,004	2,169	165	155	1,476	1,285	30	99	3,480	3,454	195	254
Arkansas	3,346	3,250	262	253	2,379	2,172	82	248	5,724	5,422	344	502
Louisiana	659	645	60	59	1,510	1,245	46	119	2,168	1,891	106	178
Oklahoma	3,036	2,838	306	265	1,138	1,062	91	46	4,174	3,900	396	311
Texas	8,147	8,220	813	692	5,060	4,986	350	326	13,208	13,206	1,164	1,018
Western												
Montana	965	865	131	94	1,058	934	49	69	2,023	1,799	180	163
Idaho	1,405	1,585	177	170	1,878	1,735	134	264	3,283	3,320	310	434
Wyoming	686	681	54	100	191	170	15	16	876	850	70	116
Colorado	2,875	2,857	319	255	1,303	1,453	122	127	4,177	4,310	441	382
New Mexico	1,366	1,437	151	143	551	513	48	34	1,917	1,950	199	177
Arizona	906	943	112	77	1,276	1,425	44	39	2,183	2,368	156	116
Utah	706	736	58	66	256	245	25	26	962	981	83	92
Nevada	187	194	17	15	136	143	12	11	322	337	29	26
Washington	1,622	1,730	147	144	3,747	3,424	370	500	5,370	5,155	517	644
Oregon	803	762	81	78	2,427	2,330	249	331	3,229	3,092	330	409
California	6,310	6,845	649	587	19,827	17,771	1,450	1,680	26,137	24,616	2,099	2,267
Alaska	28	27	2	2	21	20	2	2	49	47	5	5
Hawaii	86	92	8	8	424	418	37	36	510	510	44	43
U.S.	96,535	94,539	8,582	8,386	111,076	102,222	6,661	8,112	207,611	196,761	15,243	16,498

Annual values for the most recent year are preliminary. Estimates as of end of current month. Totals may not add because of rounding. 1. Sales of farm products include receipts from commodities placed under nonrecourse CCC loans, plus additional gains realized on redemptions during the period.

Information contacts: Larry Traub (202) 694-5593 or ltraub@econ.ag.gov and Cheryl Steele (202) 694-5591 or cherylj@econ.ag.gov. To receive current monthly cash receipts via e-mail contact Larry Traub.

Table 35—CCC Net Outlays by Commodity & Function

	Fiscal year									
	1991	1992	1993	1994	1995	1996	1997	1998	1999 E	2000 E
	\$ million									
Commodity/Program										
Feed grains:										
Corn	2,387	2,105	5,143	625	2,090	2,021	2,587	2,873	5,204	3,285
Grain sorghum	243	190	410	130	153	261	284	296	483	314
Barley	71	174	186	202	129	114	109	168	266	182
Oats	12	32	16	5	19	8	8	17	40	26
Corn and oat products	9	9	10	10	1	0	0	0	0	0
Total feed grains	2,722	2,510	5,765	972	2,392	2,404	2,988	3,354	5,993	3,807
Wheat and products	2,805	1,719	2,185	1,729	803	1,491	1,332	2,187	3,009	1,392
Rice	867	715	887	836	814	499	459	491	802	597
Upland cotton	382	1,443	2,239	1,539	99	685	561	1,132	1,740	1,236
Tobacco	-143	29	235	693	-298	-496	-156	376	69	-163
Dairy	839	232	253	158	4	-98	67	291	467	187
Soybeans	40	-29	109	-183	77	-65	5	139	1,023	2,907
Peanuts	48	41	-13	37	120	100	6	-11	16	-15
Sugar	-20	-19	-35	-24	-3	-63	-34	-30	-48	-42
Honey	19	17	22	0	-9	-14	-2	0	1	-1
Wool and mohair	172	191	179	211	108	55	0	0	6	-6
Operating expense ¹	625	6	6	6	6	6	6	5	5	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	178	400
Export programs ²	733	1,459	2,193	1,950	1,361	-422	125	212	344	1,020
1988/99 Disaster/tree/ livestock assistance	121	1,054	944	2,566	660	95	130	3	2,278	5
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,517	1,552
Other conservation programs	0	0	0	0	0	7	105	197	309	367
Other	155	-162	949	-137	-103	320	104	28	682	865
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,391	14,112
Function										
Price support loans (net)	418	584	2,065	527	-119	-951	110	1,128	832	1,376
Cash direct payments: ³										
Production flexibility contract	0	0	0	0	0	5,141	6,320	5,672	5,544	5,042
Market loss assistance	0	0	0	0	0	0	0	0	3,011	0
Deficiency	6,224	5,491	8,607	4,391	4,008	567	-1,118	-7	0	0
Diversion	0	0	0	0	0	0	0	0	0	0
Dairy termination	96	2	0	0	0	0	0	0	0	0
Loan deficiency	21	214	387	495	29	0	0	478	2,653	3,383
Other	0	140	149	171	97	95	7	416	288	11
Conservation Reserve Program	0	0	0	0	0	2	1,671	1,693	1,489	1,517
Other conservation programs	0	0	0	0	0	0	85	156	260	310
Noninsured Assistance (NAP)	0	0	0	0	0	2	52	23	72	89
Total direct payments	6,341	5,847	9,143	5,057	4,134	5,807	7,017	8,431	13,317	10,352
1988-98 crop disaster	6	960	872	2,461	577	14	2	-2	1,945	0
Emergency livestock/tree/DRAP livestock indemn/forage assist.	115	94	72	105	83	81	128	5	333	5
Purchases (net)	646	321	525	293	-51	-249	-60	207	715	148
Producer storage payments	1	14	9	12	23	0	0	0	0	0
Processing, storage, and transportation	240	185	136	112	72	51	33	38	51	48
Export donations ocean transportation	50	139	352	156	50	69	34	40	441	346
Operating expense ¹	625	6	6	6	6	6	6	5	5	4
Interest expenditure	745	532	129	-17	-1	140	-111	76	178	400
Export programs ²	733	1,459	2,193	1,950	1,361	-422	125	212	344	1,020
Other	190	-403	545	-326	-105	100	-28	3	230	413
Total	10,110	9,738	16,047	10,336	6,030	4,646	7,256	10,143	18,391	14,112

E=Estimated in the FY 2000 Mid-Session Review Budget which was released on June 28, 1999 based on May 1999 supply and demand estimates.

1. Does not include CCC Transfers to General Sales Manager. 2. Includes Export Guarantee Program, Direct Export Credit Program, CCC Transfers to the General Sales Manager, Market Access (Promotion) Program, starting in FY 1991 and starting in FY 1992 the Export Guarantee Program - Credit Reform, Export Enhancement Program, Dairy Export Incentive Program, and Technical Assistance to Emerging Markets. 3. Includes cash payments only. Excludes generic certificates in FY 86-96. The CCC outlays shown for 1996-2000 include the impact of the Federal Agricultural Improvement and Reform Act of 1996, which was enacted April 4, 1996. Minus (-) indicates a net receipt (excess of repayments or other receipts over gross outlays of funds). Information contact: Richard Pazdalski Farm Service Agency - Budget at (202) 720-3675 or Richard_Pazdalski@wdc.fsa.usda.gov. Further detail can be found at www.fsa.usda.gov/dam/BUD/bud1.htm

Food Expenditures

Table 36—Food Expenditures

	Annual			1999			Year-to-date cumulative		
	1997	1998	1999	Sep	Oct	Nov	Sep	Oct	Nov
	<i>\$ billion</i>								
Sales ¹									
At home ²	380.2	395.3	--	33.8	35.6	33.0	300.1	335.6	368.8
Away from home ³	297.9	301.7	--	28.6	30.1	29.1	254.0	284.0	313.1
	<i>1998 \$ billion</i>								
Sales ¹									
At home ²	371.0	378.5	--	33.1	34.7	32.4	288.1	322.9	355.3
Away from home ³	289.7	286.0	--	27.8	29.1	28.1	241.6	270.7	298.8
	<i>Percent change from year earlier (\$ billion)</i>								
Sales ¹									
At home ²	3.4	4.0	--	4.6	5.0	-0.6	3.0	3.2	2.9
Away from home ³	3.0	1.3	--	15.5	13.7	17.6	12.7	12.8	13.3
	<i>Percent change from year earlier (1998 \$ billion)</i>								
Sales ¹									
At home ²	1.0	2.0	--	7.1	8.0	2.1	3.0	3.6	3.4
Away from home ³	0.2	-1.3	--	19.2	17.1	21.2	12.8	13.2	13.9

-- = Not available. 1. Food only (excludes alcoholic beverages). Not seasonally adjusted. 2. Excludes donations and home production. 3. Excludes donations, child nutrition subsidies, and meals furnished to employees, patients, and inmates. *Information contact: Annette Clauson (202) 694-5373*

Note: This table differs from Personal Consumption Expenditures (PCE), table 2, for several reasons: (1) this series includes only food, excluding alcoholic beverages and pet food which are included in PCE; (2) this series is not seasonally adjusted, whereas PCE is seasonally adjusted at annual rates; (3) this series reports sales only, but PCE includes food produced and consumed on farms and food furnished to employees; (4) this series includes all sales of meals and snacks, while PCE includes only purchases using personal funds, excluding business travel and entertainment.

For a more complete discussion of the differences, see "Developing an Integrated Information System for the Food Sector," ERS Agr. Econ. Rpt. No. 575, Aug. 1987.

Transportation

Table 37—Rail Rates; Grain & Fruit-Vegetable Shipments

	Annual			1998			1999			
	1996	1997	1998	Oct	May	Jun R	Jul	Aug	Sep	Oct P
Rail freight rate index ¹ (Dec. 1984=100)										
All products	111.5	112.1	113.4	113.4	113.2	113.1	112.8	112.7	113.3	113.4
Farm products	115.9	120.3	123.9	121.2	121.1	121.1	121.4	121.4	124.7	124.7
Grain food products	108.8	107.6	107.4	107.2	99.3	99.3	99.3	99.3	99.3	99.3
Grain shipments										
Rail carloadings (1,000 cars) ²	25.2	23.2	22.8	26.5	22.6	22.2	24.6	26.5	25.9	28.3
Barge shipments (mil. ton) ^{3,4}	3.1	2.6	3.0	3.3	4.1	4.4	4.3	3.8	2.7	3.8
Fresh fruit and vegetable shipments ⁵										
Piggy back (mil. cwt)	1.1	1.1	0.9	0.8	0.9	1.0	0.8	0.8	0.8	0.6
Rail (mil. cwt)	1.6	1.7	1.2	1.3	1.0	1.5	0.9	0.5	0.9	1.3
Truck (mil. cwt)	35.7	42.6	42.2	41.2	54.3	53.6	45.8	42.2	37.6	42.1

P= Preliminary. R = Revised. -- = Not available. 1. Department of Labor, Bureau of Labor Statistics. 2. Weekly average; from Association of American Railroads. 3. Shipments on Illinois and Mississippi waterways, U.S. Corps of Engineers. 4. Annual 1996 is 7-month average. 5. Agricultural Marketing Service, USDA. *Information contact: Jenny Gonzales (202) 694-5296*

Indicators of Farm Productivity

Table 38—Indexes of Farm Production, Input Use, & Productivity¹

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	1992=100									
Farm output	88	83	89	94	94	100	94	107	101	106
All livestock products	92	93	94	95	98	100	100	108	110	109
Meat animals	95	97	97	96	99	100	100	102	103	100
Dairy products	94	96	95	98	98	100	99	114	115	115
Poultry and eggs	81	83	86	92	96	100	104	110	114	119
All crops	86	75	86	92	92	100	90	106	96	103
Feed crops	84	62	85	88	86	100	76	102	83	98
Food crops	84	76	83	107	82	100	96	97	90	93
Oil crops	88	72	88	87	94	100	85	115	99	107
Sugar	95	91	91	92	96	100	95	106	98	94
Cotton and cottonseed	92	96	75	96	109	100	100	122	110	117
Vegetables and melons	90	81	85	93	97	100	97	113	108	112
Fruit and nuts	95	102	98	97	96	100	107	111	102	102
Farm input ¹	101	100	100	101	102	100	101	102	101	100
Farm labor	101	103	104	102	106	100	96	96	92	100
Farm real estate	100	100	102	101	100	100	98	99	98	99
Durable equipment	120	113	108	105	103	100	97	94	92	89
Energy	102	102	101	100	101	100	100	103	109	104
Fertilizer	106	97	94	97	98	100	111	109	85	89
Pesticides	92	79	93	90	100	100	97	103	94	106
Feed, seed, and purchased livestock	97	96	91	99	99	100	101	102	109	95
Inventories	102	98	93	97	100	100	104	99	108	104
Farm output per unit of input	87	83	90	93	92	100	94	105	100	106
Output per unit of labor										
Farm ²	87	81	86	92	89	100	98	111	110	106
Nonfarm ³	95	95	96	96	97	100	100	101	--	--

-- = Not available. Values for latest year preliminary. 1. Includes miscellaneous items not shown separately. 2. Source: Economic Research Service. 3. Source: Bureau of Labor Statistics. *Information contact: John Jones (202) 694-5614*

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Food Supply & Use

Table 39—Per Capita Consumption of Major Food Commodities¹

Commodity	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
	<i>Lbs.</i>									
Red meats ^{2,3,4}	119.5	115.9	112.3	111.9	114.1	112.2	114.8	115.1	112.8	111.0
Beef	68.6	65.4	63.9	63.1	62.8	61.5	63.6	64.4	65.0	63.8
Veal	1.1	1.0	0.9	0.8	0.8	0.8	0.8	0.8	1.0	0.9
Lamb & mutton	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.8
Pork	48.8	48.4	46.4	46.9	49.5	48.9	49.6	49.0	45.9	45.6
Poultry ^{2,3,4}	51.9	53.9	56.3	58.3	60.8	62.5	63.3	62.9	64.4	64.8
Chicken	39.6	40.9	42.4	44.2	46.7	48.5	49.3	48.8	49.8	50.9
Turkey	12.4	13.1	13.8	14.1	14.1	14.0	14.1	14.1	14.6	13.9
Fish and shellfish ³	15.1	15.6	15.0	14.8	14.7	14.9	15.1	14.9	14.7	14.5
Eggs ⁴	31.8	30.5	30.2	30.1	30.3	30.4	30.6	30.2	30.5	30.7
Dairy products										
Cheese (excluding cottage) ^{2,5}	23.7	23.8	24.6	25.0	26.0	26.2	26.8	27.3	27.7	28.0
American	11.5	11.0	11.1	11.1	11.3	11.4	11.5	11.8	12.0	12.0
Italian	8.1	8.5	9.0	9.4	10.0	9.8	10.3	10.4	10.8	11.0
Other cheeses ⁶	4.1	4.3	4.5	4.6	4.7	5.0	5.0	5.0	5.0	5.1
Cottage cheese	3.9	3.6	3.4	3.3	3.1	2.9	2.8	2.7	2.6	2.7
Beverage milks ²	222.3	224.2	221.8	221.1	218.3	213.4	213.6	209.8	210.0	206.9
Fluid whole milk ⁷	105.7	97.5	90.4	87.3	84.0	80.1	78.8	75.3	74.6	72.7
Fluid lower fat milk ⁸	100.5	106.5	108.5	109.9	109.3	106.6	106.1	102.6	101.7	99.8
Fluid skim milk	16.1	20.2	22.9	23.9	25.0	26.7	28.7	31.9	33.7	34.4
Fluid cream products ⁹	7.6	7.8	7.6	7.7	8.0	8.0	8.1	8.4	8.7	9.1
Yogurt (excluding frozen)	4.5	4.2	4.0	4.2	4.2	4.3	4.7	5.1	4.8	5.1
Ice cream	17.3	16.1	15.8	16.3	16.3	16.1	16.1	15.7	15.9	16.2
Lowfat ice cream ¹⁰	8.0	8.4	7.7	7.4	7.1	6.9	7.6	7.5	7.6	7.9
Frozen yogurt	--	2.0	2.8	3.5	3.1	3.5	3.5	3.5	2.6	2.1
All dairy products, milk equivalent, milkfat basis ¹¹	582.5	563.8	568.4	565.6	565.9	574.1	586.0	584.4	575.5	579.8
Fats and oils--total fat content	63.6	60.8	62.8	65.4	67.4	70.2	68.6	66.9	65.8	65.6
Butter and margarine (product weight)	14.8	14.6	15.3	15.0	15.4	15.8	14.7	13.7	13.5	12.8
Shortening	21.5	21.5	22.2	22.4	22.4	25.1	24.1	22.5	22.3	20.9
Lard and edible tallow (direct use)	2.6	2.1	2.4	3.1	4.1	3.9	4.7	4.9	5.3	4.7
Salad and cooking oils	26.3	24.4	24.8	26.7	27.2	26.8	26.3	26.9	26.1	28.7
Fruits and vegetables ¹²	635.9	657.3	656.3	660.5	661.1	685.1	689.1	690.4	706.1	710.8
Fruit	272.8	279.1	273.5	266.6	268.0	285.4	284.3	285.4	289.8	294.7
Fresh fruits	120.9	122.8	116.3	113.0	123.5	124.9	126.5	124.6	129.0	133.2
Canned fruit	21.1	21.3	21.0	19.8	22.9	20.7	21.0	17.5	18.8	20.5
Dried fruit	14.9	13.2	12.1	12.3	10.8	12.6	12.9	12.8	11.4	10.8
Frozen fruit	3.6	3.9	3.7	3.6	3.7	3.6	3.6	4.0	3.8	3.5
Selected fruit juices	112.0	117.6	120.1	117.6	106.4	123.3	119.9	126.2	126.6	126.1
Vegetables	363.1	378.2	382.8	393.9	393.2	399.8	404.8	405.0	416.2	416.0
Fresh	167.4	172.2	167.2	167.2	171.1	171.9	177.4	175.1	181.8	185.6
Canning	94.8	102.4	110.7	113.3	111.6	112.1	107.8	110.2	108.5	105.9
Freezing	64.2	67.6	66.8	72.7	70.8	75.1	79.5	79.9	83.9	81.5
Dehydrated and chips	29.2	29.8	31.0	32.8	31.5	32.9	31.7	31.3	34.0	34.5
Pulses	7.5	6.3	7.1	7.8	8.2	7.7	8.5	8.5	8.0	8.5
Peanuts (shelled)	6.9	7.0	6.0	6.5	6.2	6.0	5.8	5.7	5.7	5.8
Tree nuts (shelled)	2.3	2.2	2.4	2.2	2.2	2.2	2.3	1.9	2.0	2.2
Flour and cereal products ¹³	175.5	174.5	182.0	183.6	186.2	191.0	194.0	192.5	198.4	200.1
Wheat flour	131.7	129.6	136.0	136.9	138.8	143.3	144.5	141.8	148.8	149.7
Rice (milled basis)	14.3	15.2	16.2	16.8	17.5	17.6	19.2	20.1	18.9	19.5
Caloric sweeteners ¹⁴	132.7	133.1	137.0	137.9	141.2	144.4	147.4	149.9	150.7	154.1
Coffee (green bean equiv.)	9.8	10.1	10.3	10.3	10.0	9.1	8.2	8.0	8.9	9.3
Cocoa (chocolate liquor equiv.)	3.8	4.0	4.3	4.6	4.6	4.3	3.9	3.6	4.2	4.1

-- = Not available. 1. In pounds, retail weight unless otherwise stated. Consumption normally represents total supply minus exports, nonfood use, and ending stocks. Calendar-year data, except fresh citrus fruits, peanuts, tree nuts, and rice, which are on crop-year basis. 2. Totals may not add due to rounding. 3. Boneless, trimmed weight. Chicken series revised to exclude amount of ready-to-cook chicken going to pet food as well as some water leakage that occurs when chicken is cut up before packaging. 4. Excludes shipments to the U.S. territories. 5. Whole and part-skim milk cheese. Natural equivalent of cheese and cheese products. 6. Includes Swiss, Brick, Muenster, cream, Neufchatel, Blue, Gorgonzola, Edam, and Gouda. 7. Plain and flavored. 8. Plain and flavored, and buttermilk. 9. Heavy cream, light cream, half and half, eggnog, sour cream, and dip. 10. Formerly known as ice milk. 11. Includes condensed and evaporated milk and dry milk products. 12. Farm weight. 13. Includes rye, corn, oats, and barley products. Excludes quantities used in alcoholic beverages, corn sweeteners, and fuel. 14. Dry weight equivalent. *Information contact: Jane E. Allshouse (202) 694-5449*

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- *Livestock*: cattle, hogs, broilers, eggs, turkeys, dairy, aquaculture
- *Crops*: wheat, rice, feed grains, oilseeds, cotton, tobacco, sugar, vegetables, fruit, industrial crops

These brief commodity reports are included in the "Agricultural Economy," "Commodity Overview," or "Briefs" section.

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Phytosanitary restrictions (*see* Sanitary and phytosanitary restrictions)
Pistachios: 1996—11/9 (*see also* Tree nuts)
Planting flexibility: 1995—6/17; 1996—8/22; 1997—8/18, 9/13 (*see also* Acreage)
Planting, prospective, U.S. (*see* Spring plantings, U.S.)
Plastics (*see* Starch-based plastics)
Poland: 1996—6/23; 1999—12/20 (*see also* Central and Eastern Europe)
Policy, agricultural: 1994—12/28 (New Zealand); 1995—11/24 (Canada), 5/26 and 12/26 (Russia); 1996—4/2, 9/28; 1997—3/16 (China), 10/26 (WTO compliance), 11/30 (WTO compliance), 12/23 (pork industry)
Pollution, ag-related: 1995—11/19, 12/20; 1999—11/20 (hypoxia)
Population: 1995—12/19; 1996—11/18 (rural); 1999—10/27 (APEC)
Pork: 1995—3/11; 1996—12/15; 1997—5/10, 6/3, 7/6 (exports), 12/20 (industry structure); 1998—3/7 (trade); 1999—8/12 (Korean trade), 9/26 (Mexico) (*see also* Hog industry, U.S., Meat; Meat production and demand)
Potatoes: 1996—7/12 (french fries); 1997—5/9; 1998—6-7/6
Poultry: 1995—3/14, 4/10 (labeling); 1996—7/20 (safety), 11/13; 1997—3/18 (Egypt); 1998—3/7 (trade); 1999—11/2 (*see also* Broiler industry, Meat production and demand; Livestock)
Precision farming: 1995—5/18; 1998—4/19
Price pooling: 1997—6/13
Price spreads: 1997—12/11
Price ratio, break-even: 1998—5/3
Prices, farm products: 1997—1-2/14 (global), 4/3, 4/34 (global), 8/4; 1998—6-7/2, 10/12 (Farm Act); 1999—3/12 (swings), 4/5 (factors), 4/27 (risk, 10/16 (variability), 12/2
Produce: 1998—8/14 (Mexico) (*see also* Friuts; Vegetables)
Productivity: 1996—5/25; 1997—3/21; 1998—5/30
PromoFlor: 1995—9/26,28
Property rights: 1995—3/22
Public sector: 1999—10/22, 10/26
Put options: 1996—1/21
Quarantine: 1997—6/17
Queensland Sugar Corporation: 1997—6/11
Railroads: 1998—3/2, 12/16; 1999—5/27
Real estate, farm (*see* Farm real estate)
Reefers: 1999—1-2/19
Reform (*see* Agricultural reform and Economic reform)
Regional trade agreements: 1998—9/25 (*see also* Trade blocs)
Regulatory reform: 1995—5/20 (*see also* Pesticides)
Research, agricultural: 1995—7/22; 1996—7/30; 1997—3/21, 4/35; 1998—5/32; 1999—10/22 (biotechnology)
Resource regions: 1999—4/6 (farm income), 6-7,24 (CRP)
Retail food: 1996—3/27 (Japan) (*see also* Food prices, retail)
Revenue (farm income) guarantee: 1996—10/26
Revenue insurance: 1999—4/27, 5/16, 8/15, 12/17
Rice: 1995—7/15; 1996—9/14; 1997—9/10; 1998—5/4, 8/4, 11/5; 1999—4/13 (Japanese tariffs), 12/8 (*see also* Trade)
Rio Biodiversity Treaty: 1996—12/36
Risk management: 1996—10/24; 1997—5/23, 8/21; 1999—1-2/6 (contracting), 3/12, 4/27 (insurance and hedging), 5/16 (crop and revenue insurance), 5/22 (savings), 8/15 (crop and revenue insurance), 10/16 (price variability), 12/17 (yield and revenue insurance)
Risk Management Agency: 1999—5/16, 8/16, 12/17
Romania: 1996—6/24 (*see also* Central and Eastern Europe)
Rotation: 1996—8/28; 1997—3/23 (grazing)
Roth tax plans: 1998—12/25
Rural economy, U.S.: 1995—10/18; 1996—6/2, 6/26 (exports); 1997—11/22; 1998—2/9, 4/16
Russia: 1995—8/24, 12/26; 1996—5/16 (soybean meal imports), 11/15 (poultry trade); 1997—1-2/8 (grain and meat), 12/8 (beef); 1998—6-7/12 (livestock trade), 6-7/24 (livestock); 1999—6-7/15 (economic crisis) (*see also* Former Soviet Union)
Salmon: 1995—11/12; 1998—5/10 (*see also* Aquaculture)

- Sanitary and phytosanitary restrictions: 1995—5/26, 12/28;
1996—12/20; 1997—6/17,23, 11/30; 1998—12/31
- Saudi Arabia: 1995—11/15; 1997—5/18
- Savings: 1999—5/22
- Seafood: 1996—5/29 (inspection) (*see also* Aquaculture)
- Seed preservation: 1996—12/36
- Shipping: 1999—1-2/18
- Shrimp: 1995—11/12; 1998—5/10 (*see also* Aquaculture)
- Slovakia: 1996—6/23 (*see also* Central and Eastern Europe)
- Small farms (*see* Farms, small)
- Social Security: 1998—12/24
- Soil erosion (*see* Erosion)
- South Africa: 1995—7/26
- South Korea (*see* Korea)
- Southeast Asia: 1997—11/18
- Soviet Union (*see* former Soviet Union, New Independent States)
- Soybeans: 1995—9/15; 1996—4/16, 5/14, 9/19; 1997—3/3, 5/6, 9/6;
1998—4/3, 5/2, 5/34 (Brazil), 9/18, 12/18 (transportation), 12/22
(Indonesia); 1999—3/18 (biotechnology), 5/3 (prices and plantings,
9/9 (*see also* Oilseeds; Trade)
- Spring plantings, U.S.: 1996—8/22, 9/15; 1997—5/6, 8/2; 1998—5/2,
6-7/4,6, 9/10; 1999—5/2, 6/2
- Starch-based plastics: 1996—1/22
- State trading enterprises: 1996—12/22; 1997—6/11, 11/31; 1999—6-
7/27 (China)
- Sugar: 1995—8/21; 1996—3/15; 1997—1-2/17 (Australia), 3/11, 7/7;
1998—3/10; 1999—9/17 (Mexico-U.S. trade)
- Sunflowerseed: 1999—3/19 (biotechnology)
- Supermarkets: 1996—3/27 (Japan), 7/25; 1998—8/14 (Mexico)
- Surface Transportation Board: 1998—3/2
- Sustainable agriculture: 1997—3/21
- Swampbuster: 1996—11/26
- Sweeteners: 1997—3/13; 1999—9/17 (Mexico-U.S. trade)
- Sweet potatoes: 1998—12/2
- Taiwan: 1996—12/15 (pork exports); 1997—6/3, 7/18 (WTO);
1998—3/15 (animal waste)
- Takings: 1996—10/18
- Tariffs: 1995—5/16, 8/27 (Russia); 1996—3/15 (sugar), 12/18 (WTO);
1997—1-2/19 (dairy), 3/11 (sugar); 1998—12/28; 1999—4/13,
11/26 (rice, Japan), 8/28
- Tax policy: 1997—10/12; 1998—5/25, 12/24; 1999—5/22 (savings)
- Taxpayer Relief Act of 1997: 1998—12/24
- Technology: 1998—8/17 (hard white wheat); 1999—1-2/18 (trans-
portation)
- Terminology (*see* Glossaries)
- Textiles: 1998—11/9, 12/20 (Indonesia) (*see also* Cotton)
- Thailand: 1997—11/18
- Tillage: 1996—8/26; 1998—2/25,26; 1999—1-2/15, 8/19 (conserva-
tion)
- Tilapia: 1995—11/14; 1998—5/9 (*see also* Aquaculture)
- Tobacco: 1996—1/12; 1997—9/3, 11/37 (import policy); 1999—1-2/8
- Tomatoes: 1996—5/17; 1997—1-2/6
- Trade: 1995—6/26 (China), 8/12; 1996—4/12, 12/26; 1997—1-2/34
(processed food), 4/7 (baseline), 5/15, 9/12 (rice) (Middle East and
North Africa; 1998—4/28 (baseline); 1999—4/13 (Japan), 4/34
(baseline), 6-7/19 (Middle East and North Africa), 6-7/27 (China),
8/11 (Korea)
- Trade barriers: 1996—3/28 (Japan), 9/28
- Trade blocs: 1996—9/24; 1997—1-2/23, 11/16; 1998—4/11 (*see also*
Regional trade agreements)
- Trade (by commodity)—
Beef: 1999—8/12 (Korea)
Corn: 1995—8/12, 10/24; 1996—10/9
- Cotton: 1995—6/12, 6/26 (China), 5/12 (Korea)
- Grains: 1996—4/14, 8/17, 9/2; 1999—6-7/27 (China), 8/12
(Korea)
- Oilseeds: 1995—6/26 (China), 8/16, 9/15; 1996—9/19;
1997—9/7; 1999—8/12 (Korea)
- Pork: 1999—8/12 (Korea)
- Wheat: 1995—8/12, 9/12; 1999—8/8
(*see also* Exports; Imports; individual commodities)
- Trade liberalization: 1996—4/15, 9/28, 12/26; 1997—11/14,29
- Transportation: 1995—5/5; 1998—3/2, 12/16; 1999—1-2/18
- Transportation, U.S. Department of: 1998—12/15 (peanut allergies)
- Tree nuts: 1996—11/9; 1998—12/3
- Trout: 1995—11/12
- Turkey: 1996—11/17; 1997—5/16 (*see also* Poultry; Middle East)
- Typology, farm: 1999—1-2/6, 11/7, 11/11
- Ukraine: 1996—7/16
- Uruguay Round: 1995—8/26, 12/26; 1996—12/18; 1998—12/28;
1999—4/13 (tariffs), 11/26 (tariffs) (*see also* GATT, World Trade
Organization)
- U.S.-Canada Free Trade Agreement: 1997—9/20; 1999—9/13 (*see also*
North American Free Trade Agreement)
- U.S. Trade Representative: 1999—9/19 (sweeteners)
- Vegetable oils: 1995—9/15; 1996—9/19; 1998—9/20, 12/23
(Indonesia)
- Vegetables: 1995—10/10, 11/11; 1996—3/13, 6/17 (winter fresh), 7/10;
1997—3/7 (winter fresh, Florida freeze), 6/5 (safety); 1999—5/7
(trade) (*see also* Horticulture; Produce; individual vegetables)
- Vegetables, leafy green: 1998—2/5
- Vertical coordination: 1997—12/20
- Walnuts: 1996—11/9 (*see also* Tree nuts)
- Water quality: 1995—6/17, 11/19, 12/20; 1998—10/23 (*see also*
Conservation; Clean Water Act; and Clean Water Action Plan)
- Water Quality Incentives Projects: 1995—11/19, 12/20; 1999—11/20
(*see also* Conservation and Clean Water Act)
- Water Quality Program: 1995—11/19; 1997—5/28
- Watersheds: 1995—12/20
- Weather (crop impact): 1995—4/9; 1997—3/6,7, 9/12 (rice), 10/8;
1998—4/4,6 (*see also* Floods and Hurricanes)
- Western Europe (*see* European Union)
- Western Hemisphere: 1998—4/11 (trade)
- Wetlands: 1998—6-7/20; 1999—11/20 (*see also* Water quality)
- Wetlands Reserve Program: 1996—10/17, 11/22
- Wheat (U.S.-Canada trade): 1994—8/28, 9/5; 1999—6-7/9
- Wheat: 1995—9/12; 1996—5/5 (karnal blunt), 6/5 (weather), 8/10,19;
1997—1-2/14 (Australia; global prices), 3/2 (winter plantings), 6/2,
8/8, 9/2 (durum); 1998—5/4, 8/7, 8/17 (hard white), 12/22
(Indonesia); 1999—3/20 (biotechnology), 6-7/9, 8/7, 8/9 (drought in
Middle East and North Africa) (*see also* Grain; Trade; Durum)
- Whole-farm management: 1995—6/23
- WIC (Supplemental Nutrition Program for Women, Infants, and
Children): 1999—5/27
- Wildlife Habitat Incentives Program: 1996—11/22
- Wine: 1995—8/10; 1996—9/12; 1997—8/12
- Wood products: 1997—12/4 (*see also* Forest products)
- World Trade Organization: 1995—3/23, 12/26; 1996—12/16,18,26;
1997—7/18 (candidates), 10/26 (compliance), 11/16, 11/26 (candi-
dates), 11/31; 1998—9/25, 11/12 (environment), 12/28; 1999—
6-7/30 (China), 8/28 (tariffs), 10/15, 11/26 (tariffs) (*see also* GATT,
Uruguay Round)
- World Trade Organization mini-round: 1998—11/13, 12/33
- Yield variation: 1999—3/12, 4/27